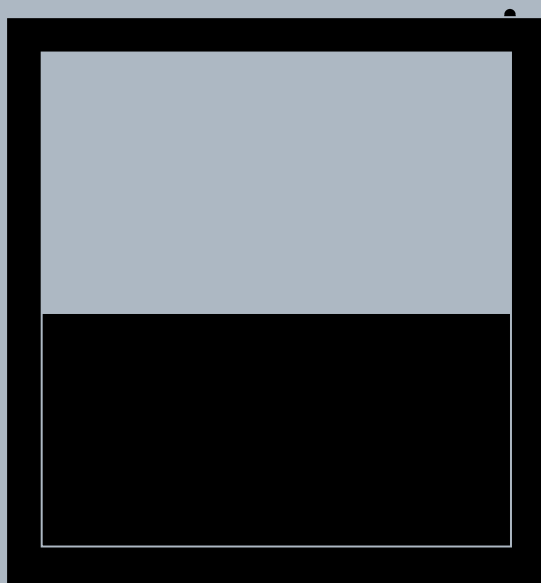# BeoVision 5 – 42 EU MKIII
Chassis and display interface

Type 891x

Service Center repair guide
English, German, French, Italian, Spanish, Danish, Nederlands

This Service Center repair guide must be returned with the defective parts/back-up suitcase !

Survey of modules, chassis

Main chassis modules 999 consists of:	PCB1, PCB2, PCB3, PCB4, PCB6, PCB7, PCB10, PCB14, PCB32, PCB60, PCB61, PCB63, PCB85
PCB58	IR-eye
PCB59	Camcorder Interface

Using the Service Center repair guide (SCRG)

The SCRG is primary dealing with fault located in the product as a stand alone product.
Faults that occur due to setting, link failure or other faults on external connected equipment, can not be expected to be described.

The Service Center repair guide will explain and guide you through repair of the product.

Symbols and illustrations

A survey of symbols are available.
Symbols are used to guide in following situations:
- User action shown in an illustration
- Reference to an illustration

The symbol ➢ is used to refer to a specific illustration.
See ➢2, refers to illustration 2.

Illustrations are placed in the guide so that you can read an instruction and look at the illustrations at the same time.

Survey of symbols

Make a shortcircuit between the marked points, usually for discharging e.g. a picture tube

Push with finger, in arrow direction

Disconnect internal plug
Connect internal plug

Disconnect mains plug
Connect mains plug

Disconnect aeriel or other external plug
Connect aeriel or other external plug

Loosen/remove or fasten/install screw

Dashed arrow. Push/pull e.g. PCB, chassis etc. in arrow's direction

Filled arrow. Refer to the description for more information.

How to service

Strategy

The television is to be serviced in the customer's home.

The static-protective field service kit must always be used when the product is disassembled or modules are being handled.

The repair involves replacement of the chassis, module(s) or Plasma Display Panel, which are supplied in the back-up suitcase.
The replaced modules must be returned for repair at Bang & Olufsen, Module Repair Department.
Fault description and error codes must be returned with the replaced parts.
Use the Module Repair form or the form in the Retail Order System, Exchange Module.

The EEPROM must be transferred to the chassis in the television, hereby maintaining the customer settings.

Preparations before service

Fault description and error codes must be returned with the replaced parts.
Use the Module Repair form or the form in the Retail Order System, Exchange Module.

Fault explanation and demonstration

Before troubleshooting is initiated, let the customer demonstrate the fault, if possible.

Plasma Display Panel pixel test

Check the PDP for burn-in and pixel error! Refer to page 1.19.

The test is used:
- before transporting BeoVision 5 – 42 or the Plasma Display Panel to a workshop.
- before and after service on the Plasma Display Panel.

Error code

The error code contains data that may be used for repairing the module(s) and must be returned with the module(s).

Handling the error code
1. Take a note of the error code, for example on the Module repair form.
2. Use the error code when trouble shooting.
3. Return the error code, either on the Module Repair form or in the Retail System.
4. Before returning the television to the customer, clear the error code.

Recommended tools for service

Service stand (part no. 3375289).
B&O Test tape, for geometry check (part no. 6780000).
Ruler for geometry check/adjustment.
White gloves.
Micro fibre cloth for cleaning (part no. 3375706).
ML-tester (part no. 8053404).
B&O programmer (ML kit must be installed) (part no. 8053368).

PIN-code setting prior to service

The user guide gives the full information concerning the function and use of the PIN-code, such as the purpose of the PIN-code, activating the pin-code, forgotten your PIN-code, etc.

This section gives information handling PIN-code in the service situation.

PIN-code active prior to service

If the PIN-code is not deactivated prior to service, you must use the service code to unlock the product.

Service code.
The service code:
- Unlocks the product, but does not affect the pin-code setting
- Gives you 12 hours service time

Entering the service code.
When the product asks, for PIN-CODE press and hold ◄◄ for 3 seconds.
The master code menu appears.
Enter the service code: 1 1 1 1 1.

Important notice concerning service time.
The service time is active as long as the product is connected to the mains, including Standby.

To obtain maximum service time:
Only connect the product to the mains while you are performing actual service on the product.

When the service time is expired, the product can only be unlocked by entering the PIN-code or the master code.

Registration of the modules.
The modules will be registered to the product in the following situations:
- the product has been connected to the mains for more than 12 hours, including Standby time.
- the PIN-code is activated or deactivated.

PIN-code deactivated by customer prior to service

With the PIN-code deactivated prior to service you must be aware of the modules will be registered to the product in the following situations:
- the product has been connected to the mains for more than 12 hours, including Standby time.
- the PIN-code is activated or deactivated.

The registration of modules in the product can only be changed at Bang & Olufsen, Struer.

Handling and cleaning

Static electricity

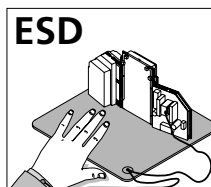STATIC ELECTRICITY
MAY DESTROY THE
PRODUCT

ESD
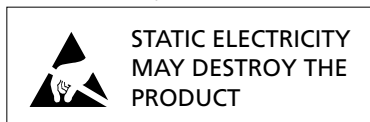
Static electricity may damage the television.

Static-protective field service kit.
A static-protective field service kit must always be used when the product is
disassembled or modules are being handled.
Follow the instructions in the guide and use the ESD-mat for both old and new
modules.

Please note:
When mains voltage on the television is required, remove the connection between
the television and the ESD-mat.

The chassis or modules must always be connected to the static-protective field
service kit or placed in an ESD-proof bag.

Symbol of safety components

When replacing components with this symbol, the same type has to be used, also
the same values for ohm and watt.
The new component is to be mounted in the same way as the replaced one.

Lithium battery

ADVARSEL
LITHIUMBATTERI - EKSPLOSIONSFARE
UDSKIFTNING MÅ KUN FORETAGES AF EN SAGKYNDIG
OG SOM BESKREVET I SERVICE MANUAL

WARNING
LITHIUM BATTERY - RISK OF EXPLOSION
TO BE REPLACED BY QUALIFIED SERVICEMAN ONLY
AND AS DESCRIBED IN THE MANUAL
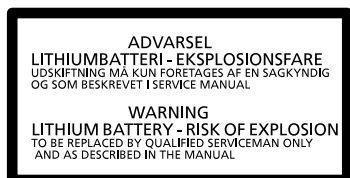
WARNING
Short-circuit and overcharging of some types of lithium batteries may result in a
violent explosion.

Transport and handling

The product must not be placed on the contrast screen.
It is recommended to use the product cover when transporting the television.
The product cover can be ordered, part no. 3375015.

The Plasma Display Panel must always be placed vertically to avoid damage to the
screen, such as pixel error.
Place the Plasma Display Panel in the service stand at all times.

Cleaning

Please refer to the chapter "Final check after repair" or the User's guides.

Fault flow chart

```
┌─────────────────┐
│  System-        │
│  functionality  │
└─────────────────┘
```

┌─────────┐
│   │ ──────► No
│   │
└─────────┘
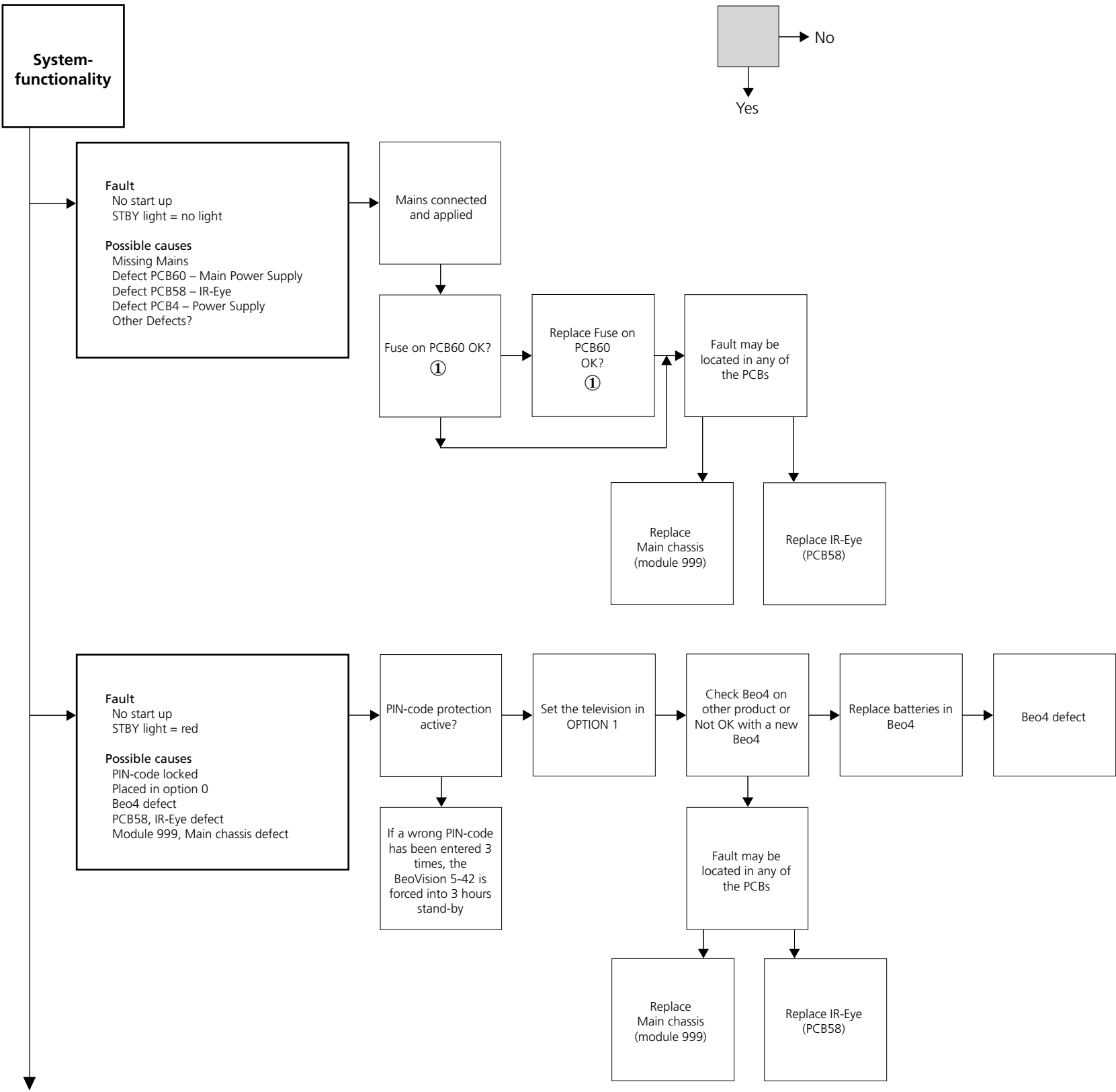   │
     ▼
    Yes

Fault
 No start up
 STBY light = no light

Possible causes
 Missing Mains
 Defect PCB60 – Main Power Supply
 Defect PCB58 – IR-Eye
 Defect PCB4 – Power Supply
 Other Defects?

Mains connected
and applied

Fuse on PCB60 OK?
①

Replace Fuse on
PCB60
OK?
①

Fault may be
located in any of
the PCBs

Replace
Main chassis
(module 999)

Replace IR-Eye
(PCB58)

Fault
 No start up
 STBY light = red

Possible causes
 PIN-code locked
 Placed in option 0
 Beo4 defect
 PCB58, IR-Eye defect
 Module 999, Main chassis defect

PIN-code protection
active?

Set the television in
OPTION 1

Check Beo4 on
other product or
Not OK with a new
Beo4

Replace batteries in
Beo4

Beo4 defect

If a wrong PIN-code
has been entered 3
times, the
BeoVision 5-42 is
forced into 3 hours
stand-by

Fault may be
located in any of
the PCBs

Replace
Main chassis
(module 999)

Replace IR-Eye
(PCB58)

```
                                                              ┌──────┐
                                                              │      │────▶ No
                                                              └──────┘
                                                                  │
                                                                  ▼
                                                                 Yes
```

Fault
  ML error

Possible causes
  Defect ML function
  Defect Main chassis
  Defect ML connection
  Defect ML cable
  Incorrect option setup

Take a note of the
last ML error.
Clear the error
codes

Turn OFF the
BeoVision 5-42.
Disconnect the ML
cable

Turn ON the
BeoVision 5-42.
Last ML error codes
= ...

Replace
Main chassis
(Module 999)

Turn OFF the
BeoVision 5-42.
Disconnect all ML
cables in the ML
setup

Check ML
connections.
Use the ML-tester
or a new cable.
Connections OK?

Reestablish
connection

Reestablish and
configure the ML
setup one product at
a time
(repeat until ML
setup is complete)
Masterlink OK?

Failure in Link
product

No

Yes

Add Camcorder on Beo4 list

Fault
Camcorder
No sound and/or no picture

Possible causes
Defect connection to camcorder
Defect PCB camcorder
Defect main chassis

Connection to camcorder OK?

Reestablish connection

Fault may be located in any of the PCBs

Replace Main chassis (module 999)

Replace PCB camcorder (PCB59)

Select Camcorder on Beo4 Picture OK?

Confirm connection W42 PCB58 <-> Main Chassis ②

Reestablish connection

Replace PCB camcorder (PCB59)

Fault may be located in any of the PCBs

Replace Main chassis (Module 999)

Replace PCB camcorder (PCB59)

Camcorder defect

Fault
Stand

Possible causes
Connection to stand
Defect stand
Defect main chassis

Press MENU on Beo4 Stand menu OK?

Check connection to the stand

Reestablish connection

Replace stand

Replace Main chassis (Module 999)

Picture

No

Yes

Fault
TV Channels
No picture or only snow

Possible causes
External or internal connections
User setup
Main chassis
Plasma Display Panel

Press MENU on
Beo4
Menu on screen?

Check plasma
display panel stb.
led.

PDP stb. Light
No light

PDP stb. Light
Red

PDP stb. Light
Green

PDP stb. Light
Blinking

Confirm TV
connections and
settings are OK?

Reestablish
connection and/or
settings

Check 220v at
PCB60 p448 p1 &
p4 OK?
③

Is command
»plasma off«
p448 <1.5v at
p69 p4
③

Replace
Main chassis
(module 999)

Turn PDP OFF + ON
Use the PDP mains
switch
Picture OK?

Check OSD PDP
OK?

Fault may be found
in PDP

Replace
Main chassis
(Module 999)
OK?

OK connection
between PCB60
and PDP?
③

Reestablish
connection

Check RS232
connection W69
PCB3 p447 to PDP
OK?
④

Reestablish
connection

PDP self-check
IC1001, 3003,
3004, 3005, 3006
OK?

Fault may be found
in PDP

Fault may be
located in either
main chassis or PDP

Check RGB
connection W70
PCB3 p422 to PDP
OK?
⑤

Reestablish
connection

Replace
Main chassis
(module 999)

Fault may be found
in PDP

Fault may be
located in either
main chassis or PDP

Replace
Main chassis
(module 999)

Fault may be found
in PDP

No

Yes

Fault
Noise in picture

Possible causes
Noise in PDP, power, digital processing
Noise from source
Bad connection
Tuner, not tuner correctly (sound in picture)

Noise on OSD PDP

Only TV channel with noise in picture

Check source connections, settings OK?

Reestablish connections, settings

Fault may be found in PDP

Replace
Main chassis
(Module 999)

Check TV connections, settings and tuning OK?

Reestablish connections, settings and tuning

Replace
Main chassis
(Module 999)

No

Yes

Fault
  Colour failure on picture

Possible causes
  RGB failure in PDP
  Colour setting in user menu
  EEPROM setting erased
  RGB connection chassis <-> PDP
  RGB failure from chassis, driver
  RGB failure from source, connection/source

Activate OSD on PDP
Colours OK?

Fault may be found in the PDP

Check user menu
Picture – Colour 32
= default

Reestablish correct setting
Default = 32

TV channels has failure

Check connection to external source OK?

Reestablish connection

Check RGB connection W70 PCB3 p422 to PDP OK?
⑤

Reestablish connection

Switch RGB signal to the other input V.TAPE -> AV OK?

Replace Main chassis (Module 999)

Replace Main chassis (Module 999)

Source output defect

Sound

┌─────────────┐
│ **Fault** │
│   No sound in External speakers │
│ │
│ **Possible causes** │
│   Camcorder mute │
│   PCB10 – amplifier defect │
│   PCB10 – power supply defect │
│   PCB10 – power supply to PCB10 defect │
│   Speaker defect │
│   Connections to speaker │
│   Connection from source defect │
│   Sound mute command │
└─────────────┘

Ensure all sources
are OK
Press SPEAKER1
(internal speakers)
OK?
→ Run fault flow chart
No sound in
internal speakers

Check sound setup
OK?
→ Reestablish setup

Check connection
to speaker(s)
OK?
⑥
→ Reestablish
connection

Fault is located in
speaker

[ ] → No
↓
Yes

No

Yes

Fault
No sound in internal speakers

Possible causes
Camcorder mute
PCB10 – amplifier defect
PCB10 – power supply defect
PCB10 – power supply to PCB10 defect
Speaker defect
Connections to speaker
Connection from source defect
Sound mute command

Press SPEAKER1
(internal speakers)

Only TV channels
without sound?

All sources without
sound?

Confirm correct
setting of TV
system

Reestablish setup

No sound in both
speakers?

Check the speaker
with no sound
Measure table OK?

Replace defect
speaker

Replace
Main chassis
(Module 999)

Disconnect
PCB3P429
(camcorder)
sound OK?
⑦

Reconnect
PCB3P429.
PCB10P57p3 <1v
Sound mute
⑦

Confirm
supplyvoltage
PCB10 P58 p1 = -21V
PCB10 P58 p2 = +21V
OK?
⑥

Possible PCB4
failure

Replace
PCB Camcorder
(PCB 59)

Replace
Main chassis
(Module 999)

No

Yes

Fault
  Noise in sound

Possible causes
  Noise in TV channels -> tuning not correct
  Noise in all sources ->
        Bad connection
        Defect input
        Defect audio amplifier

Noise in TV channels only?

Check source connections and settings OK?

Reestablish connections and / or settings

Check TV connections and settings OK?

Reestablish connections and / or settings

Replace Main chassis (Module 999)

Fault
Internal speakers
No bass or no treble

Possible causes
Defect speaker unit
Defect PCB10 sound out

Check the speaker without sound Measure table OK?

Replace defect speaker

Replace Main chassis (Module 999)

Placement of measuring points

① Fuse on module 60
② Connection W42 PCB58 <-> Main chassis
③ PCB60 p448
④ RS232 connection W69 PCB3 p447 <-> PDP
⑤ RGB connection W70 PCB3 p422 <-> PDP
⑥ Connection to speakers
⑦ PCB3 p429

Plasma Display Panel (PDP) self-check

The self-check checks the status of the circuits connected to the IIC bus

- Refer to illustrations for:
  - Placement of black self-adhesive tape on the PDP.
  - Placement of buttons on NN remote control.
- Remove front frame and front cloth, see illustrations page 8.1.
- Remove the black self-adhesive tape on the PDP. See ➢1.
- Switch on BeoVision 5-42.
- Enter self-check mode.
  Press button **"B"** on the PDP and at the same time button **OFF TIMER** on the remote control. See ➢1 and ➢2.
  The display will show ":-", while the self-check is performed.
- Result of self-check. See ➢3.
  "OK"   No fault
  "- -"   Fault in or missing circuit
- Exit self-check mode.
  Press **"Standby"** on NN remote control and thereafter press **Standby** on Beo4.
- Mount the black self-adhesive tape on the PDP.
- Mount the front cloth and front frame.

➢1

LED   B

➢2

Standby

VOL

R

OFF TIMER
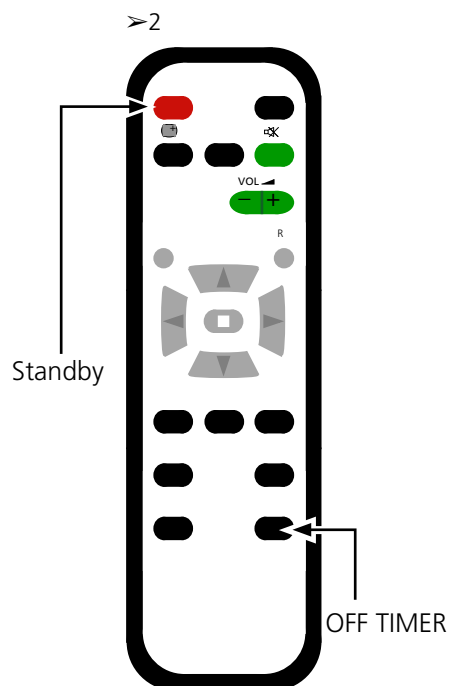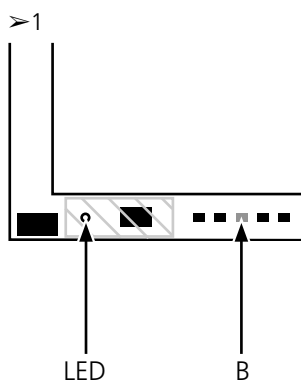
➢3

ID	IIC1		IIC2		IIC3	

D

IC9702	OK H21
IC9009	OK H61
IC9019	OK H62
IC9151	OK H53
IC9305	- - -
IC9455	OK H55
IC9605	OK H56
IC9709	OK H52

J/DG

IC1001	OK H51
IC3003	OK H63
IC3004	OK H64
IC3005	OK H65
IC3006	OK H66

Z

| IC2401 | OK H54 |

Plasma Display Panel (PDP) pixel test

The PDP pixel test checks the status of the PDP, with regard to the number of defective pixels

The test is used:
- before transporting BeoVision 5 – 42 or the PDP to a workshop
- before and after service on the PDP

- Refer to illustrations for
  - Placement of black self-adhesive tape on the PDP.
  - Placement of buttons on NN remote control.
- Remove front frame and front cloth, see illustrations page 8.1.
- Remove the black self-adhesive tape on the PDP. See ➢4.
- Switch on BeoVision 5-42.
- Enter service mode, CAT Panel menu.
  Press and hold button **"B"** and at the same time press button **"C"** 3 times within 1 second. See ➢4 and ➢5.
- Select Aging.
  Place the cursor on IIC Mode and press **"OK"**.
  Select "Aging", use the up/down arrow buttons to step through the pictures on the on-screen-display.
  Press **"OK"** to activate the internal test pictures.
  Press **"OK"** to switch between the different test pictures.
- PDP pixel test.
  Use the "GREEN", "RED" and "BLUE" test picture for checking the pixels.
- Exit service mode.
  Press **"R"** twice to return to CAT Panel menu.
  Press **"C"** to exit the service mode.

➢4

LED   B

➢5

C   OK   R
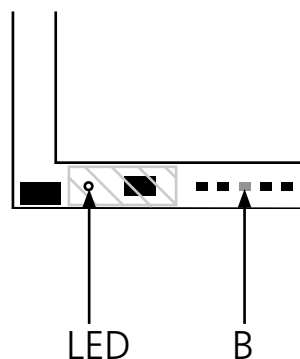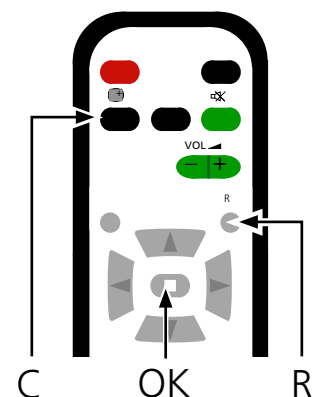
Local Screen Failure

The PDP may have a local area failure on the screen.
The illustration below shows a possible connection between failure and module.

SU module
D module

SD module
D module

C2 module
D module
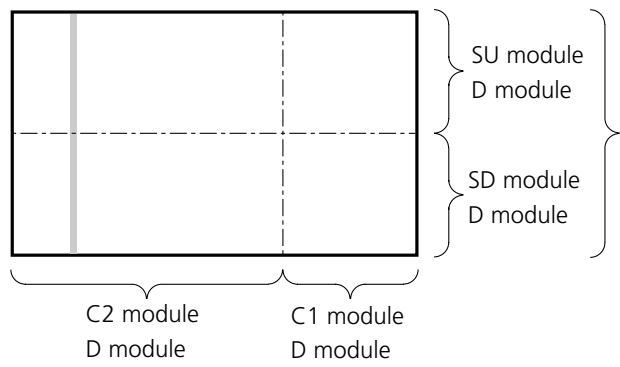
C1 module
D module

OSD menu on the PDP

1. Remove self-adhesive tape.
2. Press **PICTURE**, **SOUND** or **SET UP** on NN remote control.

PICTURE

SOUND

SET UP
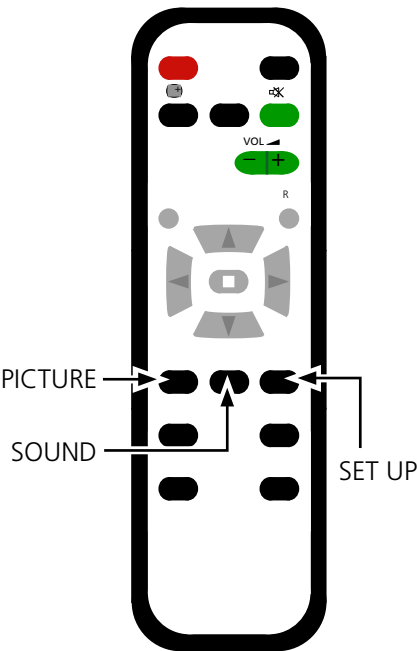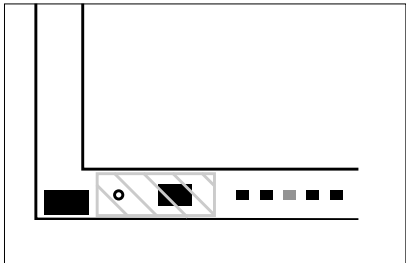
Replacement of modules

Replace Main chassis module 999
Replace other modules, PCB58 & PCB59
Transfer picture adjustment values to 6IC6

Replacement of Main chassis module 999

For detailed dismantling instructions, please refer to illustrations on page 8.2

1. Set the product in Service position - and disconnect all cables
2. Dismount Main chassis, see ➢6
3. Transfer 6IC6, see ➢7
6. Mount new Main chassis
7. Reconnect all cables
8. Transfer picture adjustment values to 6IC6
9. Test and adjust after replacement of Main chassis - Error codes
10. Restore the product to customer's setup

➢6

6x

11x

③

★

⑩

60

★

➢7

PCB6 → 6IC6

PCB32

PCB14

Use IC-pliers when replacing
(part no. 3629145)
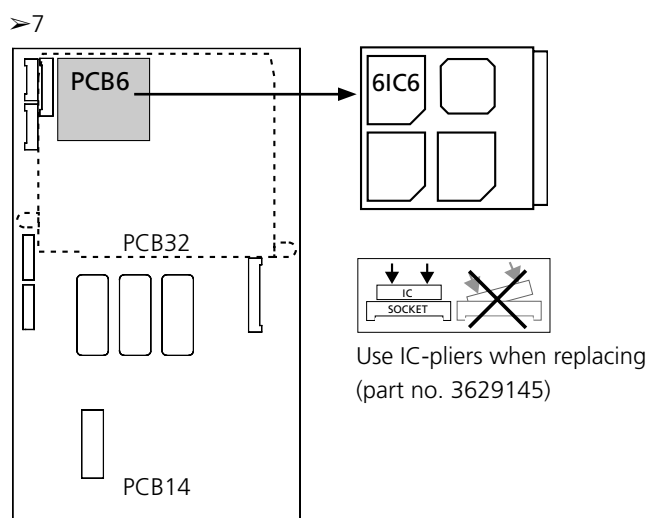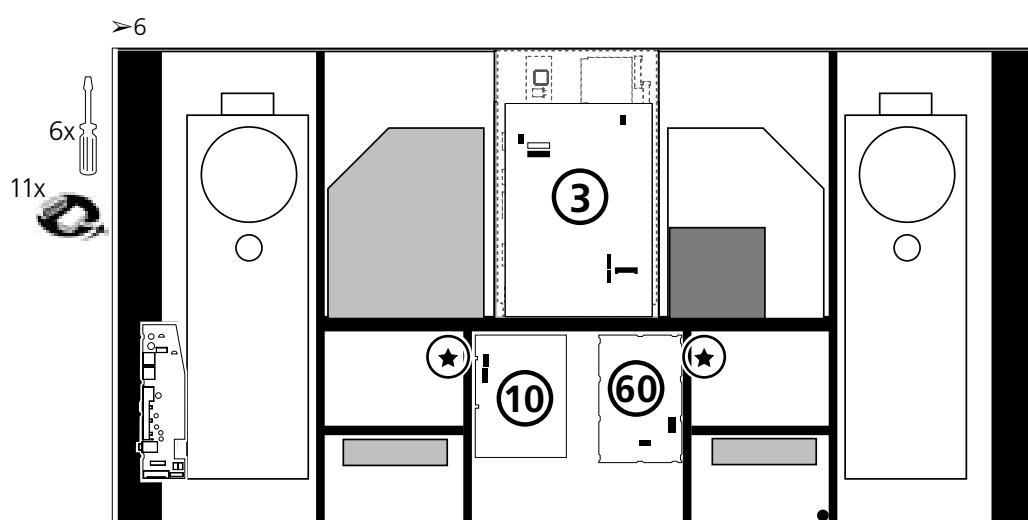
Replacement of other modules

Replacement of PCB58, IR-eye

For detailed dismantling instruction, please refer to page 8.4

1. Set the product in service position
2. Dismount Main chassis
3. Set Plasma Display Panel in service position
4. Replace PCB58
5. Mount Plasma Display Panel - ensure correct placement
6. Mount Main chassis
7. Reconnect all cables
8. Test and adjust after replacement of PCB58
9. Restore the product to customer's setup
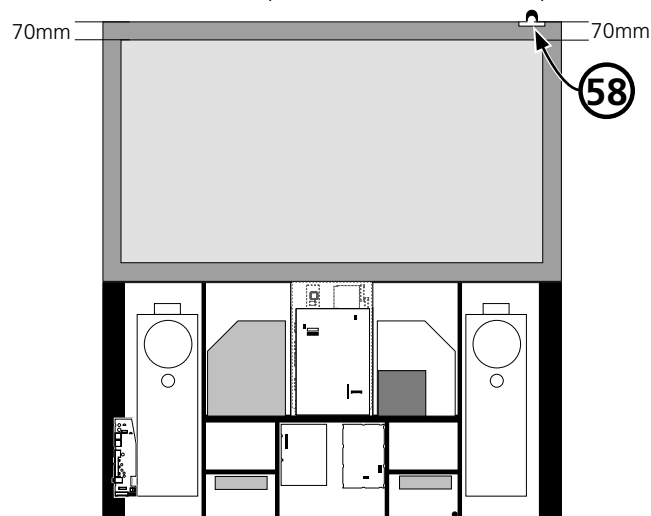
Replacement of PCB59, Camcorder Interface

For detailed dismantling instruction, please refer to page 8.5

1. Set the product in service position
2. Disconnect cables from PCB10
3. Dismount left speaker
4. Replace PCB59
5. Mount left speaker
6. Reconnect all cables
7. Test and adjust after replacement of PCB59
8. Restore the product to customer's setup
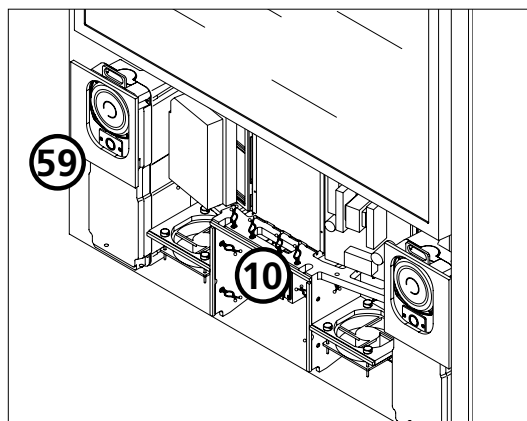
Transfer picture adjustment values to 6IC6

Transfer after replacing the main chassis

Rdr	Gdr	Bdr	Bri	Con

			COLOF

Gain adjust				
7115	7118	R	G	B
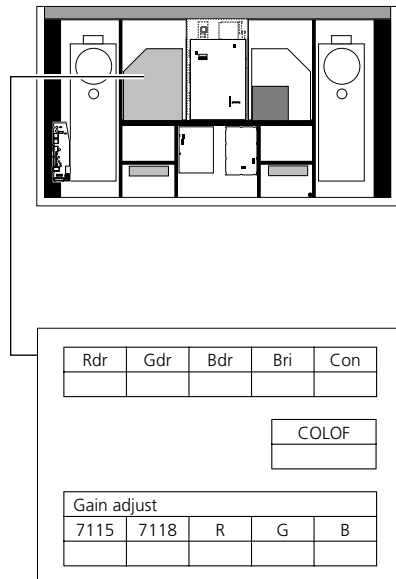
Important
The EEPROM 6IC6 contains, user set up and the data for picture adjustment.
In order to avoid loss of data, the old EEPROM 6IC6 must be transferred to the new PCB6.
The correct data for the picture adjustment must be written into the EEPROM, 6IC6. The data are printed on the label placed on PCB2.
Transfer of picture adjustment values are done in Service mode.

Enter service mode, press on the Beo4 **TV Menu 0 0 GO**

Enter data

Select the Monitor line and press **GO**. Now the Monitor service menu appears.
Select the Picture adjustments line in the Monitor service menu and press **GO**.
Place the cursor on the first item and press **GO**. Now a sub menu appears.
Press ◀◀ or ▶▶ to adjust to the value written on the label.
Press ▼ to step to the next sub menu and adjust to the value written on the label.
Repeat until all values are entered.
The values are

- Rdr, Gdr, Bdr, Bri, Con
- COLOF
- Gain adjust
- 7115, 7118, R, G, B

Press **GO** to store the adjustment.

Adjustments

Adjustments described

Geometry adjustment.
Picture adjustment.
Tuner adjustment, no adjustment necessary.

Geometry adjustment

Geometry is adjusted in Format 3, 16:9 and the value for all other picture formats are calculated.

Available formats:
Format 1   16:9 panoranic
              4:3
Format 2   Letter box
Format 3   16:9

Setup
TV-mode   V.TAPE
Format   16:9, Format 3
Test picture 16:9 test picture

Picture setting
(TV – MENU – Setup – PICTURE)

Brilliance	Colour	Contrast
32	32	20

Geometry adjustments, parameters
TV – MENU – Setup – 0 - 0 – GO – Monitor – Geometry adjustments

Geometry adjustments		
1		
2	H-PH	147
3	H-AM	145
4	V-AM	135
5	V-SH	126

Avoid burn-in
To avoid image burn-in on the PDP, there must be no black edges on any side of the picture.
The picture must fill the entire panel area.

How to measure
Measure with a ruler directly on the contrast screen.
The measurements must be performed with your eye in a straight angle to the PDP, that is you see into the reflection of your own eye.

Illustration of points of measurement. See page 9.1.

Adjustment procedure
1.   H-PH   Adjust HQ = TF ± 2.0 mm
2.   H-AM   Adjust HQ = TF = 38.0 ± 2.5 mm
3.   V-AM   Adjust EI = NG = 20.0 ± 2.0 mm
4.   V-SH   Adjust EI = NG ± 2.0 mm

Picture adjustment

General considerations

- Correct adjustment of all parameters can only be obtained by using special test signals and equipment for light measurement.
- Factory values will result in the best result.
- The values are placed on the label. See page 1.23.
- All values are stored in the EEPROM.

Menu

Chassis	1	Rdr	Red drive	Label
	2	Gdr	Green drive	Label
	3	Bdr	Blue drive	Label
	4	Bri	Brilliance	Label
	5	Con	Contrast	Label
Plasma Display Panel	6	WPR	White Point Red	Only EEPROM
	7	WPB	White point Blue	Only EEPROM
	8	RCT	Red Cut off	Only EEPROM
	9	BCT	Blue Cut off	Only EEPROM
	10	BRIOF	Brilliance Offset	Only EEPROM
	11	CONOF	Contrast Offset	Only EEPROM
Chassis	12	COLOF	Colour Offset	Label
	13	Delay	Master delay	50
	14	Colour temp		NORM
	15	Comp filter		ON
	16	Movie mode		ON/OFF/AUTO
Chassis	17	Gain adjust	7115, 7118, R, G, B	Label
Chassis	18	Colour adjust		Adjustable

13 Delay   0 – 100 ms   (default 50ms)
Delay the sound so that picture and sound is synchronised.

14 Colour temperature   COLD/NORM/WARM   (default: NORM)
Set the colour temperature on the PDP.

15 Comp filter   (default ON)
Comp filter ON:
Better separation of chroma and luminance compared to the conventional separation. On critical signals there is a risk of incorrect colour identification. When the signal is changed from SECAM to PAL the colour might synchronize to the wrong colour system.

Comb filter OFF: Conventional chroma and luminance separation.

16 Movie mode   On/Off/Auto (default Auto)
Movie mode reduces judder in movies, for example better quality when panning. If you experience a disturbing quality in scrolling text/titles that are more annoying than the judder, you can disable the movie mode.

Movie mode On/Off:
On/Off in all formats.

Movie mode Auto:
The function is only active in Format 3, 16:9.

18 Colour adjustment
Adjust the colour saturation in the CVBS picture so it matches the RGB picture.
This is not a factory adjustment.

The adjustment applies only to the specific source connected to the specific input,
such as a DVD 1 connected to the AV input.
The scart input must have an RGB input, V.TAPE or AV input.

How to decide whether or not to adjust.
Use the external source as PIP picture and compare against TV picture.
Adjustment can be performed if there is a difference in the colour saturation
between the two pictures.

The decision is made by the customer.

Chassis adjustment

CVBS picture adjustment

1 – 5 Dynamic range of the picture.

1, 2 & 3   Rdr, Gdr & Bdr   Red-, Green- & Blue drive
Is used to adjust the white level.

4 Bri   Brilliance
Is used to adjust the black level.

5 Con   Contrast
Is used to adjust the contrast.

10 – 12 Calibrate the user setting, Brilliance, Colour & Contrast.

10 BRIOF   Brilliance offset, calibrate the Brilliance adjust in the user menu.

11 CONOF   Contrast offset, calibrate the Contrast adjust in the user menu.

12 COLOF   Colour offset, calibrate the Colour adjust in the user menu.

17   Gain adjust 7115 & 7118.
Is used to dynamic range of the CVBS colour decoder.

RGB picture adjustment

17   Gain adjust R, G & B.
Is used to adjust the white level.

Plasma Display Panel driver adjustment

6 WPR & 7 WPB   White Point Red & White Point Blue.
Is used to adjust the white level.

8 RCT & 9 BCT   Red cut off & Blue cut off.
Is used to adjust the grey level.

17: CVBS gain adjustment

Setup
TV – MENU – Setup – 0 - 0 – GO – Monitor – Picture adjustments

Input   Tuner, V.TAPE or AV
Test picture 4:3 or 16:9, for example from test tape

Brilliance	Colour	Contrast
32	32	20

Menu

7115	7118	R	B	G	Limit
Label	Label	Label	label	label	OFF

Adjustment with VTR and test tape

1. Set colour decoder 7115 to the value on the label.
2. Select colour decoder 7118 and adjust for same brightness.
3. It may be necessary to toggle several times between the two decoder.

18: CVBS and RGB colour adjustment

Purpose

Adjust the colour saturation in the CVBS picture so it matches the RGB picture. This is not a factory adjustment.

The adjustment applies only to the specific source connected to the specific input, such as a DVD 1 connected to the AV input.
The scart input must have an RGB input, this is V.TAPE or AV input.

How to decide whether or not to adjust.
Use the external source as PIP picture and compare against TV picture.

Adjustment may be performed if there is a difference in the colour saturation between the main picture and the PIP picture.

 The decision is made by the customer.

The adjusted values are stored in the EEPROM.

Setup
Input   V.TAPE and/or AV
Test picture   CVBS and RGB
The source must supply both CVBS- and RGB- signal.

Picture setting (TV – MENU – Setup – PICTURE)

Brilliance	Colour	Contrast
32	32	20

18   Colour adjust
TV – MENU – Setup – 0 - 0 – GO – Monitor – Picture adjustments

Signal	Value
CVBS	043

Procedure
1. Connect source to scart input.
2. Select the scart input.
3. Select **Colour adjust** in Picture adjustments.
4. Compare the picture in CVBS- and RGB format. Toggle between the formats, press ▲ ▼.
5. Adjust the CVBS saturation to the desired level, press ▶▶ ▲ ▼.
6. Repeat step 4 & 5 until the desired level is achieved.

Adjustments after replacing PCB10, Sound Output

Read out the adjustment position of the old potentiometers 10R402-10R405 and set the new potentiometers to the same position.

Final check after repair

Final check after repair

The final check after repair, describes the activities that are needed to ensure the product will be returned in perfect condition to the customer.

The contents is:
- AC leakage test.
- Check product information.
- Restore the setup and check connections, picture and sound.
- Final cleaning of the product.
- PIN-code setting.

AC leakage test

The scope of the test is, to check the antenna terminals and other exposed metal parts for AC leakage.

1. Remove the line cable from the AC source (the wall outlet).
2. Place a jumper across the two AC plugs prongs.
3. Use a multi-meter, set for measurements in the ohm-area.
4. Place one lead from the multi-meter on the AC plug and place the other lead on each of the exposed metal parts, that is antenna connections and other exposed metal parts on the rear panel of the product.
5. The resistance during these measurements must be of 1 Mega Ohm or more. If resistance is below 1 Mega Ohm, this indicates an abnormal situation and corrective actions must be taken.

Insulation test

Each set must be insulation tested after having been dismantled. Make the test when the set has been reassembled and is ready to be returned to the customer.
Flashovers must not occur during the testing procedure!
Make the insulation test as follows:
Short-circuit the two pins of the mains plug and connect them to one of the terminals of the insulation tester. Connect the other terminal to ground on the aerial socket.

NOTE!
To avoid damaging the set it is essential that both terminals of the insulation tester have good contact.
Slowly turn the voltage control of the insulation tester until a voltage of 1.5 kV and max. 10mA is obtained. Maintain that voltage for one second, then slowly turn it down again.

Monitor information

The scope of this check is, to ensure the following:
- The product has maintained the correct identity.
- Is set to correct option.
- The error code register is cleared.

Procedure
1. Enter Service menu – monitor service menu – monitor information .
2. Check the serial number is correct.
3. Check option setting is correct.
4. Clear the error code.
5. Select error code and press **GO**.

Customer setup

Remember to inform the customer of any changed that has been made in the user setup, due to procedures in the SCRG, such as Connections, Sound, Picture, etc.

Restore the product to the customer setup.

TV SETUP - OPTIONS

Connections, such as DVD, STB, VTR
Sound, such as external speakers
Picture
Clock

Check all sources are working correctly
- Check that picture and sound on all sources are working correctly.
- Check the teletext are working correctly.

Clean the product

Never use alcohol or other solvents to clean any part of the television!

Use white gloves to avoid smudging the contrast screen.

Wipe dust off the surfaces using a dry, soft cloth or a micro fibre cloth. Remove grease stains or persistent dirt with a soft, lint-free, firmly wrung cloth, dipped in a solution of water containing only a few drops of mild detergent, such as washing-up liquid.

To retain the optimum performance of the screen, make sure that no streaks or traces of the cleaning fluid are left on the screen.

The speaker cover may be cleaned with a vacuum cleaner, set to the lowest level.

PIN-code

Please refer to the user guide for further information about the use of PIN-code.

Information to the customer

The PIN-code must be activated by the customer.

Service menu

```
Service menu

1  Monitor
2  TV-tuner
```

```
Monitor service menu

1   Monitor information
2   Service counters
3   Picture adjustments
4   Geometry adjustments
5   Text Registers
6   Format settings
7   PIN-code settings
8   FBX status info
10  Modulator system
12  Plasma version setup
```

```
Monitor information

06  IC3    (AP)     :  SW    6.0
06  IC2    (IOP)    :  SW    20.0

61  IC5    (STB-C)  :  SW    3.1
61  IC5    (STB-C)  :  TABLE 1.6
32  IC607  (DSM)    :  SW    0.75d

EEPROM ver.         004
Type no.            8912
Item no.            1891232
Serial no.          12345678
Master code         Stored
Option              1
Clock error         ....    .....
Last TV error       ....    .....
                    ....    .....
                    ....    .....
                    ....    .....
                    ....    .....
Last ML/SL error    ..
```

```
TV service setup

Tuner system        AFC
1                   On

Low tuning range    High tuning range
45                  860

Lower band limit    Upper band limit
172                 450

Vhf-1 const   Vhf-2 const   Uhf const
161           146           52
```

```
Monitor service counters

Stand-by (days)         0000
Audio mode (days)       0000
Video mode (days)       0000
On/Off (times ★10)      0000
```

```
Auto format     WSS
On              On
```

```
PIN-code
setting

PIN-code
On
```

```
Picture adjustments

1   Rdr       17
2   Gdr       21
3   Bdr       19
4   Bri       37
5   Con       30
6   WPR       29
7   WPB       33
8   RCT       25
9   BCT       32
10  BRIOF     12
11  CONOF     17
12  COLOF     16
13  Delay     100
14  Colour temp
15  Comb filter
16  Movie mode
17  Gain adjust
18  Colour adjust
```

```
SW ver  HW id  Noise  Steep  Demo  Debug
148     251    240    126    Off   Off
```

```
Geometry adjustments

1
2   H-PH  119
3   H-AM  152
4   V-AM  145
5   V-SH  112
6
7
8
9
10
11
12
13
14
```

```
Modulator system

System
B/G
```

```
Plasma version setup

Plasma version
D5 800125-II
```

```
7115, 7118, R, G, B, Limit
```

```
Text Register setup

R01   R02   R03   R04   R05   R06   R07   R08
5     11    0     0     0     0     0     0
R09   R10   Set
0     0     0
```

Service Mode

The Service mode consits of two parts: Service menu and Bus ignore mode.

Enter Service mode:
Select a SETUP menu and press **0 0 GO** within 3 seconds.
Operation in Service mode:
▲ ▼ moves the cursor up and down in the menus or change the parameter setting.
▶▶ ◀◀ change the parameter setting.
GO selects the sub menu to the menu line where the cursor is placed. Store the selected setting.
STOP go backwards in the menus.

```
Service menu

1  Monitor
2  TV-tuner
```

- Press **1** to gain access to adjustments on Monitor.

```
Monitor service menu

 1  Monitor information
 2  Service counters
 3  Picture adjustments
 4  Geometry adjustments
 5  Text Registers
 6  Format settings
 7  PIN-code settings
 8  FBX status info
10  Modulator system
12  Plasma version setup
```

Monitor information

Monitor information menu, press **1**

```
Monitor information

06  IC3     (AP)      :   SW    6.0
06  IC2     (IOP)     :   SW    20.0

61  IC5     (STB-C)   :   SW    3.1
61  IC5     (STB-C)   :   TABLE 1.6
32  IC607   (DSM)     :   SW    0.75d

EEPROM ver.              004
Type no.                 8912
Item no.                 1891232
Serial no.               12345678
Master code              Stored
Option                   1
Clock error              ....    .....
Last TV error            ....    .....
                         ....    .....
                         ....    .....
                         ....    .....
                         ....    .....
Last ML/SL error         ..
```

- Software version numbers.
  61IC5 (STB-C) TABLE indicates the version of the STB-C conversion codes.

Option
Option 0 = The IR reciever of the TV is disconnected.
Option 1 = The TV and the Audio system (BeoLink system) are placed in the same room.
Option 2 = The TV and the Audio system (BeoLink system) are placed in different rooms.

Important!
When replacing the electrical chassis including PCB6 Main microcomputer, to avoid loss of data the old EEPROM 6IC6 must be moved to the new PCB6.
If error codes occurs, please write them down and let them follow the faulty part for repair. After that clear the error codes. This is done by pressing GO in the Monitor information menu.

Survey of Error Codes

Access to Service Mode

Select TV MENU and select Setup.
Press **0 0 GO** within 3 seconds.

Reading the error code

To read an error code from the television you must access the Service Mode. Then select **MONITOR -> MONITOR INFORMATION.** If the television has registered an error, the error code will be shown in this menu under ERROR.

The survey shows which module has generated an error code on IIC bus.

Error Code	Module no.
D0	14
94	14
96	14
90	14
80	14
22	7
88	2
68	2
42	2
40	2
C0	1
80/84/88	1
84	32
68	61
C8	63

XX-YZ (XX = IIC address. Y = IIC bus address, bus 1 or bus 2. Z = any IIC bus segment A/B/C/D)

Error Code	TV error
.....	No error registered
DF	Data faliure
OL-D	Overload deflection
OL-S	Overload sync
MDL	Megatext deadlock
MRF	Megatext reset faliure

Error Code	ML/SL error
.....	No error registered
CI	Address configuration impossible
TD	ML data pulled down
TU	ML data pulled up

Other undefinable error possibilities

Deleting the error codes
After repair of an error that has triggered the display of an error code, the error code has to be deleted. This is done by pressing **GO** in the **MONITOR INFORMATION** menu.

Service counters

Monitor service counters	
Stand-by (days)	0000
Audio mode (days)	0000
Video mode (days)	0000
On/Off (times ★10)	0000

On/Off (times ★10) shows how many times the TV has been switched off to stand-by mode. The number is given in full tens. If the number exceeds four digits, the four least significant digits are shown (e.g. 12834 is shown as 2834).
The other counters in the menu are shown in full days.

Text registers

```
Text Register setup

R01     R02     R03     R04     R05     R06     R07     R08
 5       11      0       0       0       0       0       0
R09     R10     Set
 0       0       0
```

Selecting "Set" makes it possible to choose from 7 different teletext character set.

0	1	2	3	4	5	6
English	Polish	English	English	English	English	English
German	German	German	Russian	German	Arabic	Hebrew
Swedish	Swedish	Swedish	Estonian	Swedish	French	Arabic
Italian	Italian	Italian	Czech/Slovak	Italian		
French	French	French	German	French		
Portuguese	Serbocroat	Portuguese	Lithuanian/Lettish	Portuguese		
Czech/Slovak	Czech/Slovak	Turkish	Ukranian	Turkish		
	Rumanian			Greek		

Group delay errors in certain cable aerial systems can disturb the reception of teletext. This is prevented by connecting a filter in series with the CVBS signal applied to the teletext decoder.
The numbers below the Register numbers R01 - R10 are programme numbers. If all the numbers are 0, no filter has been connected on any programme number. If you wish to connect a filter on a programme number, select a register by pressing ◄◄ / ►►, then press the desired programme number, and finally press **GO**. In the example above a filter has been connected on programmes 5 and 11. The filter is not engaged until the next time you switch to the programme in question.

Format settings

```
Auto format          WSS
On                   On
```

Some TV broadcasters transmit a picture format identification, enabling the TV to switch to the proper format automatically when WSS is On. When WSS is On, detection is carried out on all picture sources, i.e.
TV tuner, and video/DVD playback.
Under certain conditions, e.g. a poor signal-to-noise ratio, the detection may fail, causing faulty format switching. WSS may therefore be set to "Off".
WSS may also be set to "Broadcast only", which means that detection is carried out only on signals from the TV tuner.

Some broadcasters do not send a "WSS Off" signal when a programme is finished and another begins. When the "WSS signal" disappears, the format will return to default.

PIN-code setting

-   In this menu it is possible to activate (ON) or deactivate (OFF) the PIN-code. It is only possible to access this menu if no pin code is set for BeoVision 5.

FBX status info

SW ver	HW id	Noise	Steep	Demo	Debug
148	251	240	126	Off	Off

SW ver
Software version

HW id
Hardware version

Noise
Shows the strength of the TV tuner input. Zero indicates the best signal and 240 is a very bad signal (snow).

Steep
A high number indicates a high sharpness in the signal. This means that the Digital Luminance Peaking only has to perform small adjustments to obtain a sharp picture.

Demo   Off/On   (default Off)
Demo of how the compensation of movements in the picture (Motion Compensated Picture) works.

Debug   Off/On   (default Off)
Red coloured bars in the side of the picture indicates Video mode and blue indicates Movie mode.

Modulator system

> Modulator system
>
> System
> BG

When replacing the EEPROM 6IC6, PCB6 or PCB14 where PCB6 is mounted, the modulator system **must** be set to the correct system B/G or I.

Plasma version setup

> Plasma version setup
>
> Plasma version
> D6 8200142

It is possible to select which plasma display version there is used.
Possible versions:
D5 8200125-I
D6 8200142

TV-tuner

Select TV-tuner in the Service menu, press **2**

TV service setup

Tuner system   AFC
1   On

Low tuning range   High tuning range
45   860

Lower band limit   Upper band limit
172   450

Vhf-1 const   Vhf-2 const   Uhf const
161   146   52

In the TV service setup menu it is only the Tuner system and AFC fields that have to be used. The rest of the fields are for factory usage, and the values in them must not be changed.

Tuner system:

The digital value in the field stands for the CTV system for which the applicable IF is intended.

If the Tuner & IF PCB is replaced to permit reception of a different CTV system, the digital value has to be changed.

The digital values for the various systems are the following:

B/G   =   1
L/L' =   2
M   =   4
D/K   =   8
I   =   16

The digital value for system combinations is obtained by adding the applicable digits.

The digital values for the IF variants in BeoVision 5-42 are the following:

B/G   =   1
B/G/L/L'   =   3
B/G/D/K   =   9
I   =   16
B/G/L/L'/I   =   19
M/I/D/K   =   28
B/G/M/I/D/K   =   29

Press **GO** to save the digital value.

AFC On/Off is used in connection with adjustments but it may also be useful in other situations. Press ◀◀ / ▶▶ to move the cursor.

Press ▲ / ▼ to switch between On/Off.

AFC Off cannot be stored. AFC is always On after stand-by.

Bus ignore mode

If an error occurs in the IIC bus system which makes the TV go into stand-by every time it is attempted to be switched on, it is possible to switch on the TV in such a way that the error is ignored:

- The TV must be on stand-by for at least 5 seconds.
- Short-circuit the service socket, P84 on AV Switch PCB14, coordinate 5L, for a minimum of 0.5 second.
- Remove the jumper.
- Press **TV**. The TV will now start up in the bus ignore mode if that is possible.

PCB14 P84
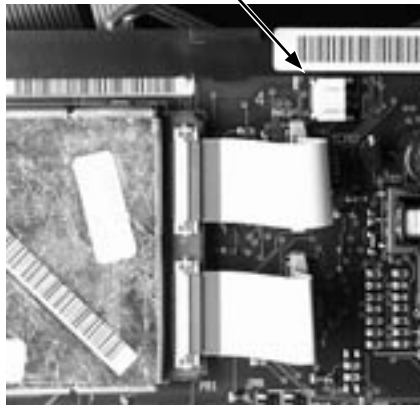
Service position
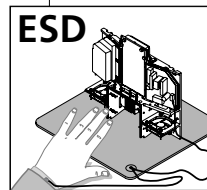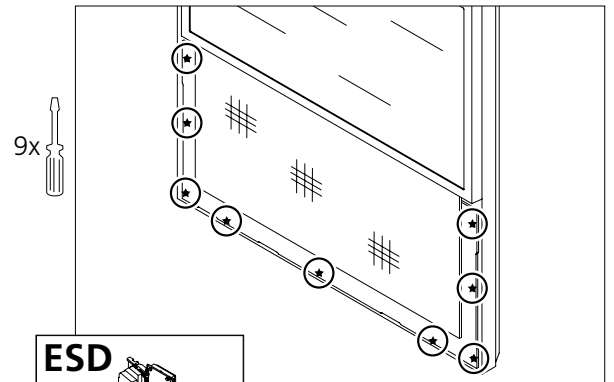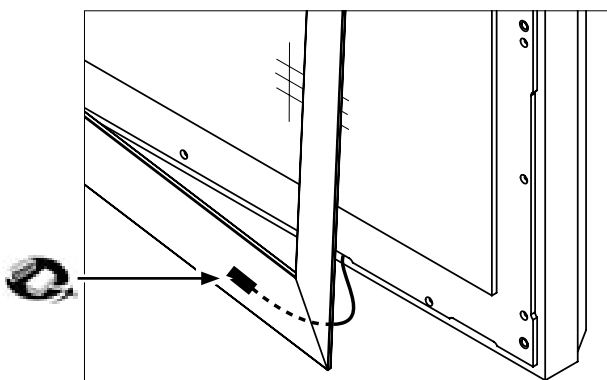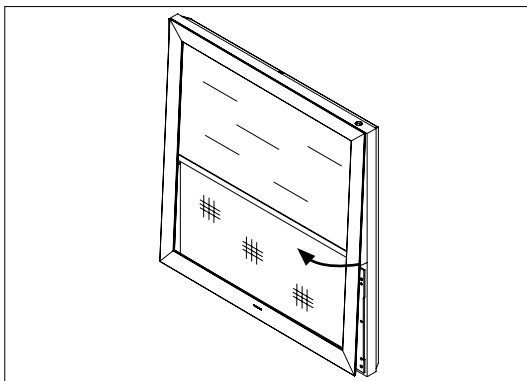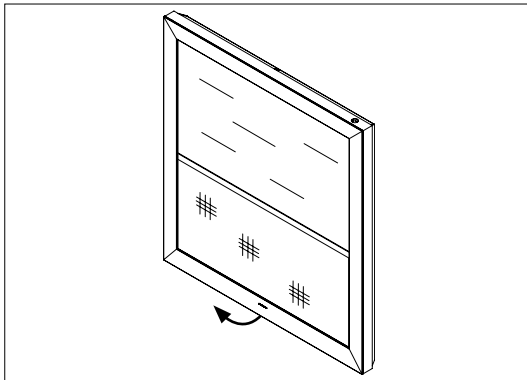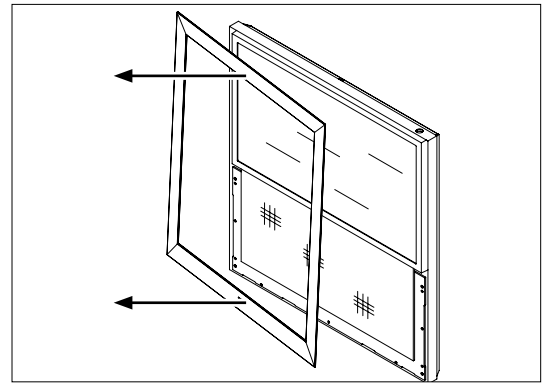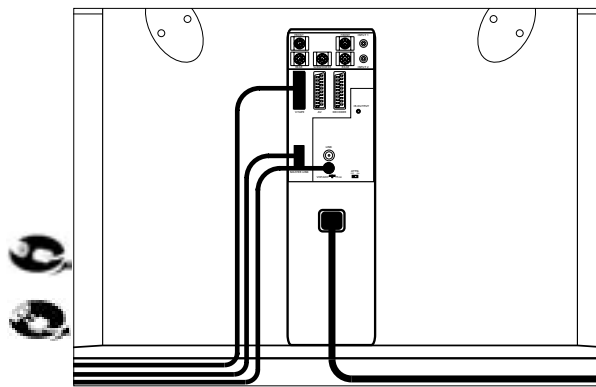
9x

ESD

Replace Main chassis

3P447
3P453
3P421
3P445
3P443
3P429

2x
TX25

3

10
10P77
10P78

ESD

60
60P448
60P449
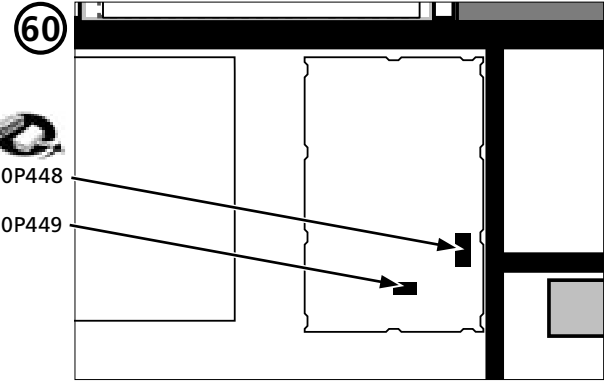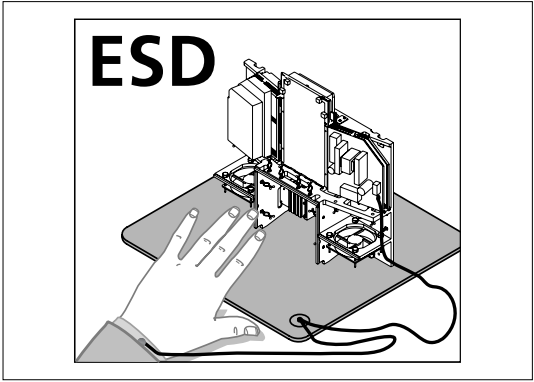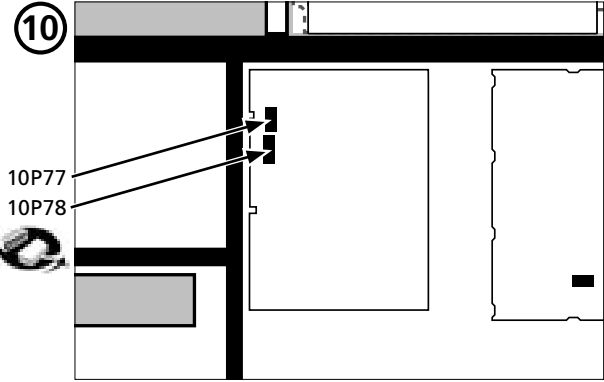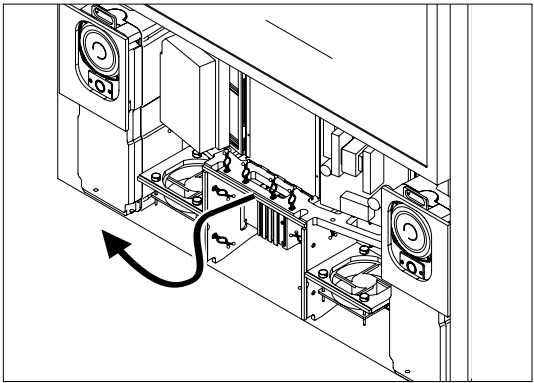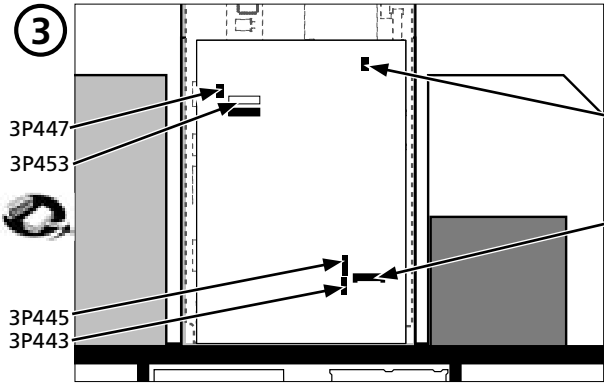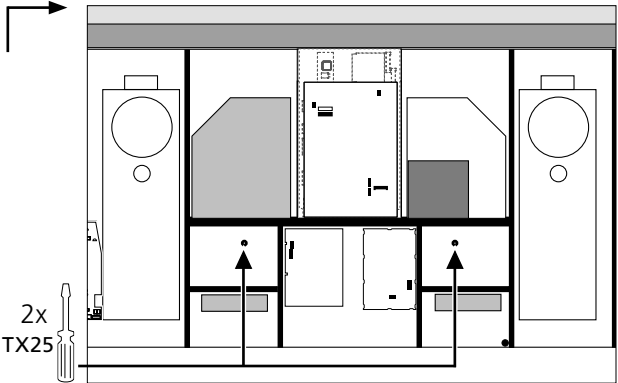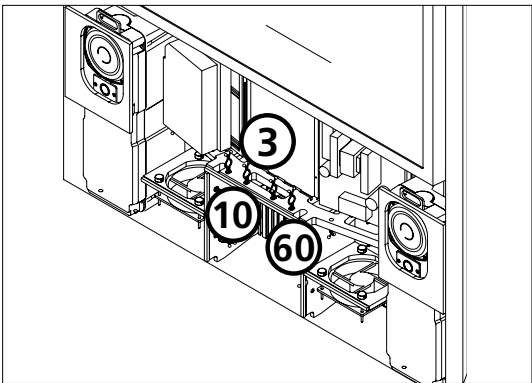
Plasma Display Panel in service position
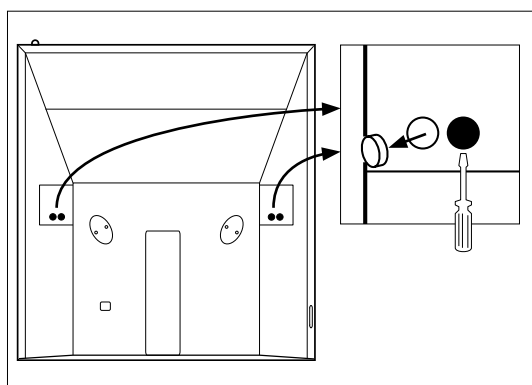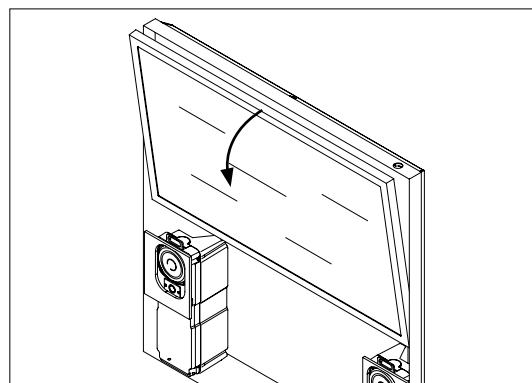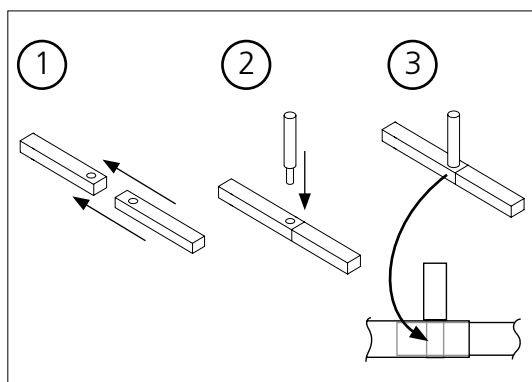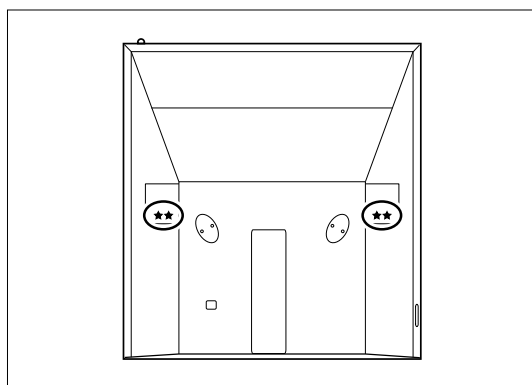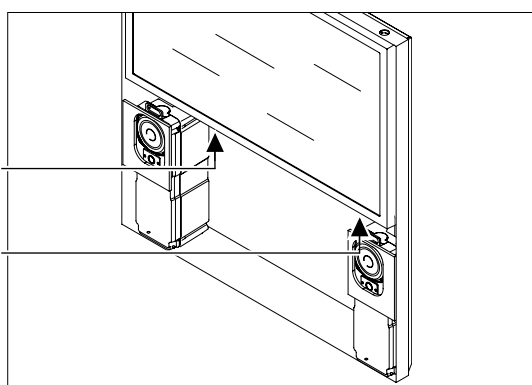
Remove PCB58, IR-eye

➤ Service position

➤ Remove Main chassis

➤ Plasma Display Panel service position

2x
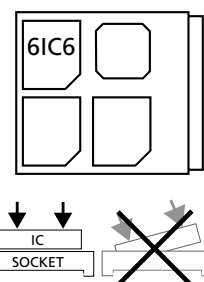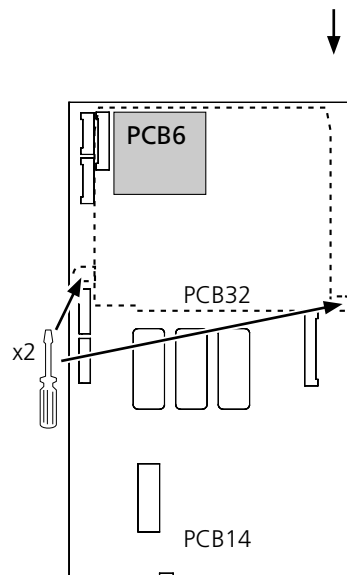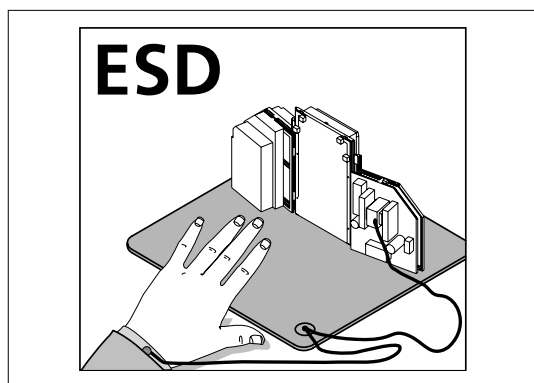
58P420
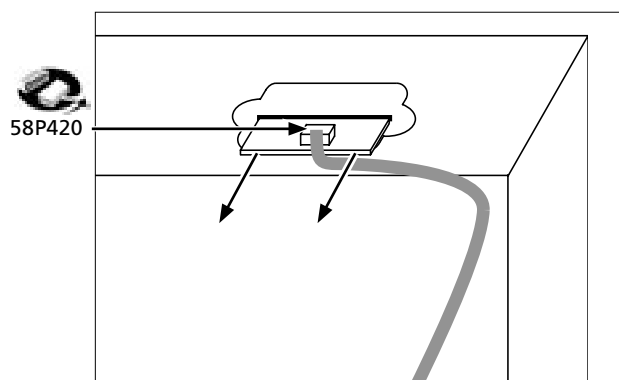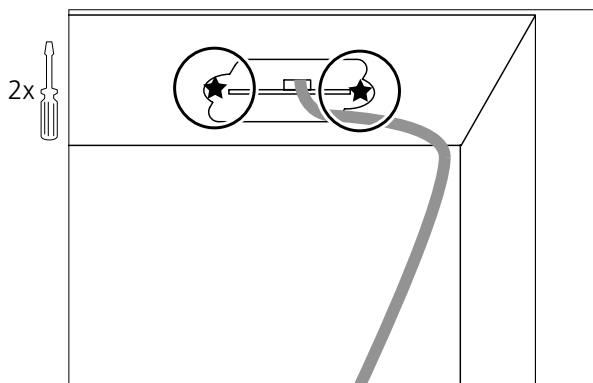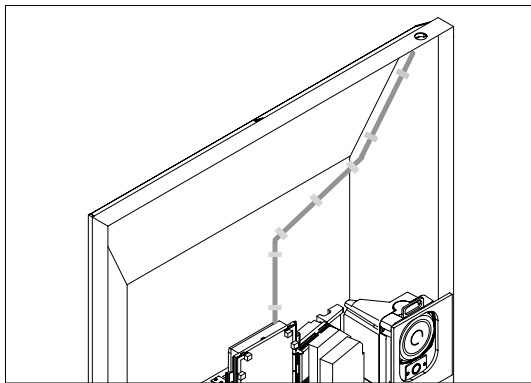
Remove PCB59, Camcorder interface

➤ Service position

10P77
10P78

2x

59P64
59P86
59P99
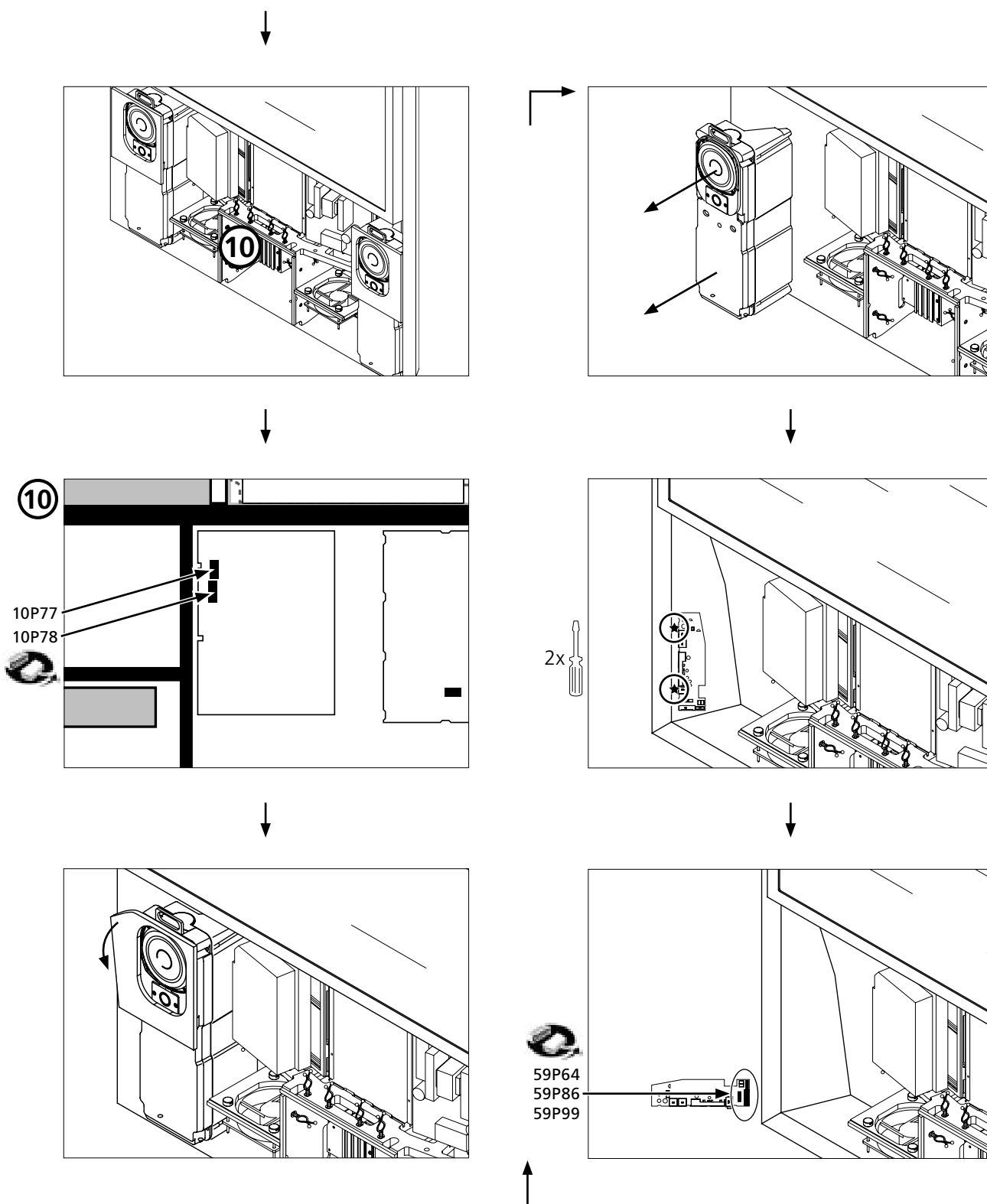
Exchanging software

Service position

Remove Main chassis

x4

PCB6

6IC6

PCB32

x2

IC
SOCKET

PCB14

ESD
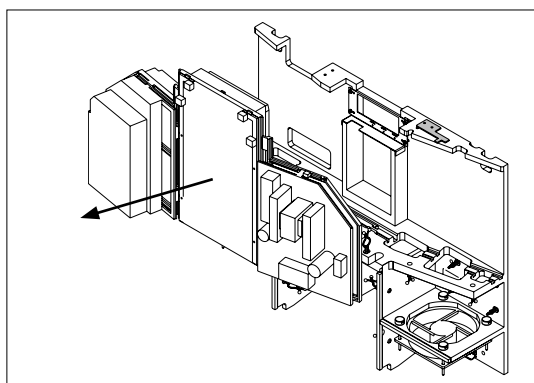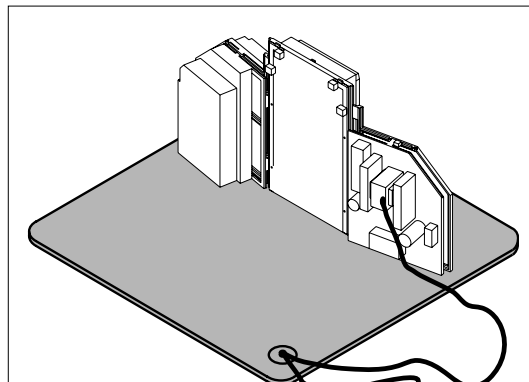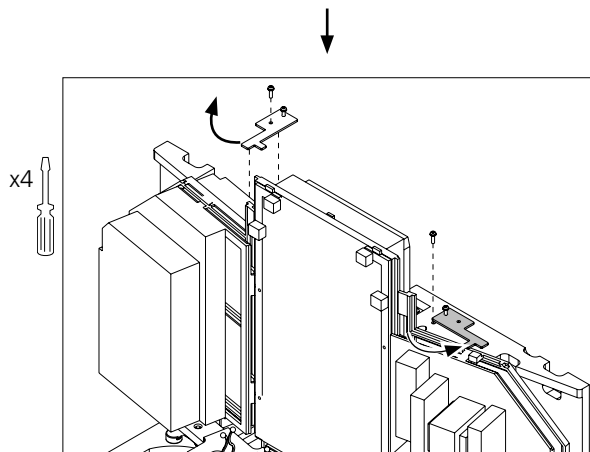
Measuring points, format 3, PAL
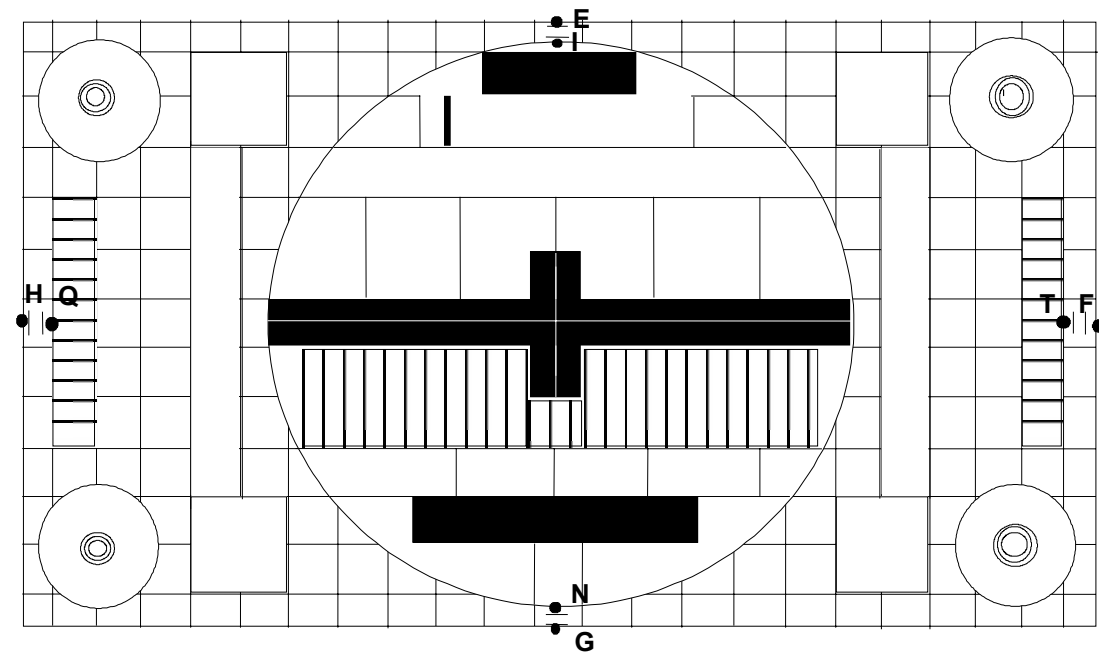
SPECIFICATION GUIDELINES FOR SERVICE USE	BeoVision 5 – 42 EU MKIII
CTV system	* See type survey
Dimensions W x H x D/Weight	1066 x 1150 x 170 mm/76 kg
Dimensions W x H x D incl. Floor Stand	1066 x 1190 x 340 mm
Dimensions W x H x D incl. Cabinet	1066 x 1370 x 380 mm
Dimensions W x H x D incl. Wall Bracket	1066 x 1150 x 202 mm
Dimensions W x H x D incl. Motorised Stand	1066 x 1205 x 558 mm
Cabinet finish	Black - Soft touch
Colours front frame and front panel	Black, Silver, Dark grey, Light blue, Silver/black
Mains voltage range	240V ± 10%, 50 Hz
Power consumption	Typical 282 watts, standby 1.8 watts
Terminal included	Beo4
Diagonal picture size	42" (1056 mm) Plasma display panel
Aspect ratio	16:9 (wide screen)
Contrast screen	Front mounted contrast screen
Picture display formats	Format 1: Panorama and 4:3
	Format 2: Letterbox zoom
	Format 3: 16:9
Viewing comfort	Automatic Picture Control
	Anti-reflection coating on contrast screen
	Picture format optimisation
	Electronic curtain
VisionClear	Digital Adaptive Luminance Peaking
	Adaptive noise reduction
	Vertical peaking
	Motion compensated progressive scan
	Digital Colour Transient Improvement (CTI)
	Digital Comb filter
	Adaptive black
Operation conditions	Temperature 0 - 40° C
	Humidity 35% - 80%
	Minimum outside air pressure: 833hPa
Audio and video	
Tuning range	45 - 860 MHz, VHF, S, Hyper, UHF
Number of channels	99
Stereo decoders	According to type
	A2 + NICAM B/G/I
	A2 + NICAM B/G/L
Teletext	Teletext level 2½, 1780 pages
	Wide Screen Signalling (WSS)
	Fasttext (FLOF), 4 memory pages per program
	17 teletext languages in 7 groups
Pin-code	With pin-code or Disabled
Loudspeakers	
Power amplifiers	4 units
Long term max. output power per unit	39 watts
Frequency range	50 - 20,000 Hz
Max. sound pressure level	96 dB
Cabinet principle/ net volume	Bass Reflex/ 3.5 litres
Woofer	115 mm - 4½"
Tweeter	18 mm - 3/4"
Bass equalizer	Adaptive
Magnetic shielded	Yes

Dolby® Digital Decoder

Decoding capabilities	Dolby® Digital 5.1 channel decoding
	Dolby® Pro-Logic decoding of two channel Dolby® Digital
	Dolby® Pro-Logic decoding of two channel PCM
	Dolby® Pro-Logic decoding of two analogue channels (Lt/Rt)
	DTS®
	Automatic format detection (Dolby® Digital, PCM)
Calibration	3 channel tone control & loudness (L/C/R)
	Bass management, Delay management
Sound modes (Speaker 1 - 5)	Speaker 1 : Stereo internal speakers (Subwoofer muted)
	Speaker 2 2.0/2.1 : Stereo external speakers / Stereo external speakers + Subwoofer
	Speaker 3 3.0/3.1 : Dolby®-3 Stereo / Dolby®-3 stereo + Subwoofer
	Speaker 4 4.0/4.1 : Stereo-4 / Stereo-4 + Subwoofer
	Speaker 5 5.0/5.1 : Dolby® Digital or Dolby® Pro-Logic Surround / Dolby® Digital + Subwoofer

Connections

Digital audio input	2 x Coax phono, Input-1 for AV-scart, Input-2 for DECODER-scart
External Beolab speakers	5 x Power Link (Left, Right, Rear left, Rear right, Subwoofer. Internal Center)
Speakers recommended, Front/Rear	BeoLab 1, BeoLab 3, BeoLab 5, BeoLab 8000, BeoLab 6000, BeoLab 4000, BeoLab Penta II, BeoLab Penta III, BeoLab 4500
Speakers recommended, Subwoofer	BeoLab 2

System modulator

	Splitter/System modulator output to Link Room (BeoLink Video Distribution)
Frequency range	479 - 831 MHz (in 1 MHz step), Dual side band
Video	Automatic Gain Control
Audio	Mono
	According to type : FM sound system G : 5.5MHz, FM sound system I : 6MHz
Connection	1 x 75 ohm aerial male

Set Top Box-Controller

|	
Controlling boxes with Beo4	Supported boxes : See list at Bang & Olufsen Retail System (via internet)
Controlling one or two boxes (2 x STB)	1 box control by use of the IR-blaster
	2 box control by use of the IR-blaster, IR Y-adaptor (6174171) and one more IR-blaster (8330352)
Connection	1 x Stereo mini jack

Connections

TV Input	1 x 75 ohm aerial female
System modulator	1 x 75 ohm aerial male (Splitter/System modulator Output)
	According to type : G or I RF output
V.TAPE - AV - DECODER	3 x 21-pin sockets
	V.TAPE: CVBS in/out RGB in (automatic 16:9 sense (pin-8)
	AV: CVBS in/out, RGB in, S-VHS in/out (automatic 16:9 sense (pin-8), automatic S-VHS configuration, B&O AVL)
	DECODER: CVBS in/out, (automatic 16:9 sense (pin-8))
BeoLink	1 x Master Link
Dolby® Digital	
External BeoLab speakers	5 x Power Link (2 x Front, 2 x Rear, 1 x Subwoofer)
Digital audio input	2 x Coax phono, Input-1 for AV-scart, Input-2 for DECODER-scart
Camcorder / Auxiliary	3 x Phono sockets (video in/audio L-R in) *)
S-Video (S-VHS)	1 x Y/C playback 4-pin socket
Headphone socket	1 x Mini jack
STB-Controller output	1 x Mini jack (stereo for 2 x IR-blaster with IR-Y-adaptor)

*) Possible to configur Set Top Box (STB) at Camcorder input and control by STB-Controller

Accessories

Cabinet, BeoVision 5	Type 4177
Finish	Black - Soft touch
Colours	Aluminium front available in 4 different colours:
	Black, Grey, Dark grey, Light blue
Dimensions W x H x D	1065 x 195 x 375 mm

Wall bracket, BeoVision 5	Type 4178
Finish	Black
Dimensions W x H x D	1030 x 634 x 32 mm

Floor stand,BeoVision 5	Type 4171
Finish	Black
Dimensions W x H x D	960 x 51 x 360 mm

Motorised stand, BeoVision 5	Type 4173
Finish	Black
Dimensions W x H x D	640 x 559 x 552 mm

|	
Satellite DVB-S (To be launched later)	Type 4032
Tuner range	950 - 2150 MHz
Down converter supply	14/18 volts control, Tone control (22 kHz), DiSEqC 1.2
Conditional Access	Common Interface - 2 slots PCMCIA
Middelware	MHP (Multimedia Home Platform)
Pretuned programs	9999 Radio or SAT

DECODER (AV1), AV (AV2) & V.TAPE (AV3)		
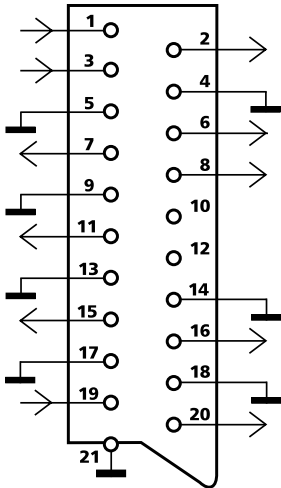
| Pin 1	Audio R out 1V RMS 820 ohms	
Pin 2	Audio R in 1V RMS 47 kohms	
Pin 3	Audio L out 1V RMS 820 ohms	
Pin 4	Audio GND	
Pin 5	Blue GND	
Pin 6	Audio L in 1V RMS 47 kohms	
Pin 7*	Blue in 0.7 Vpp 75 ohms	(note 1)
Pin 8	Play voltage:	Logic 0 = 0V to 2V
		Logic 1 = 9.5V to 12V (4:3 info)
		5V = 16:9 info
	Data out (AV2 only)	
Pin 9	Green GND	
Pin 10	Not used	
Pin 11*	Green in 0.7 Vpp 75 ohms	
Pin 12	Not used	
Pin 13	Red GND	
Pin 14	Blanking GND	
Pin 15*	Red in 0.7 Vpp 75 ohms	(note 1)
Pin 16*	Blanking in	Logic 0 = 0V to 0.4V
	Logic 1 = 1V to 3V	
	R in 75 ohms	
Pin 17	Video out GND	
Pin 18	Video in GND	
Pin 19	Composite video out 1 Vpp 75 ohms	(note 2)
Pin 20	Composite video in 1 Vpp 75 ohms	(note 2)
Pin 21	Shield	

* = Not used on AV1
Note 1: On AV2 pin 15 is also used for C in and pin 7 for C out
Note 2: On AV2 pin 20 is also used for Y in and pin 19 for Y out
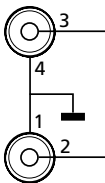
SP DIF input (AC3)		
Pin 1	SP DIF GND	
Pin 2	SP DIF IN	
Pin 3	SP DIF IN	
Pin 4	SP DIF GND	

MASTER LINK

Pin 1	Data- -0.25V ±0.1V	
Pin 2	Data+ +0.25V ±0.1V	
Pin 3	ML sense	
Pin 4-10	N.C.	
Pin 11	-supply voltage -7V to -15V (in standby -3V to -15V)	
Pin 12	+supply voltage +7V to +15V (in standby +3V to +15V)	
Pin 13	Audio -L 1V Bal, Rin 2.2Mohms, Rout 75ohms	
Pin 14	Audio +L 1V Bal, Rin 2.2Mohms, Rout 75Mohms	
Pin 15	Audio -R 1V Bal, Rin 2.2Mohms, Rout 75ohms	
Pin 16	Audio +R 1V Bal, Rin 2.2Mohms, Rout 75ohms	
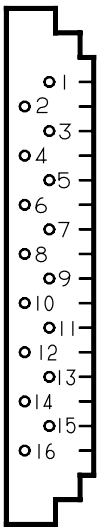
S-VHS

Pin 1	Y GND
Pin 2	C GND
Pin 3	Luminance in (Y) 1 Vpp 75 ohms
Pin 4	Chrominance in (C) 1 Vpp 75 ohms
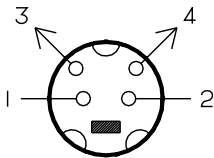
VIDEO   Composite video in 1Vpp 75 ohms

L & R   Audio L & R in 0.2V - 2 V RMS >10 kohms

PHONES   Ø 3.5 mm 220 ohms

POWER LINK FRONT & REAR

Pin 1	PL ON = >2.5V, OFF = <0.5V
Pin 2	Signal GND
Pin 3	Audio L out 0V - 2V RMS
Pin 4	PL speaker ON = >2.5V, OFF = <0.5V
Pin 5	Audio R out 0V - 2V RMS
Pin 6	Data: High >3.5V, Low <0.8V
Pin 7	Data GND
Pin 8	Not used

Subject to change without notice
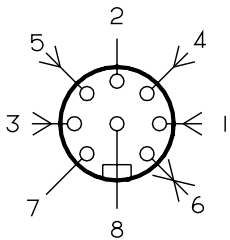
TYPE SURVEY			Modification to other TV transmission systems		
Type	System	Modulator System	B/G	B/G/L/L'/I/D/K	B/G/L/I/M/D/K
8910	B/G EU	B/G		8000294	8000295
8911	B/G/L/L' CH	B/G		1	8000295
8912	I/M/D/K HK	I	2	8000294	2
8913	I GB	I	1	1	8000295
8914	B/G ITALY	B/G		8000294	8000295
8915	B/G AUS	B/G		8000294	8000295
8916	B/G/D/K EEU	B/G		1	8000295
8917	B/G/I/M/D/K Other	B/G		8000294	2
8918	B/G/L/L' F(GB)	B/G		1	8000295
8919	B/G DK	B/G		8000294	8000295

All types mentioned are equipped with PAL/SECAM/NTSC colour decoder.

8000294   Tuner & IF system B/G/L/L'/I/D/K.   Can be setup to systems B/G, L/L', D/K and I in service mode.
8000295   Tuner & IF system B/G/L/I/M/D/K.   Can be setup to systems B/G, L, M, D/K and I in service mode.

1   Can be setup to systems B/G, L/L', D/K and I in service mode.

2   Can be setup to systems B/G, L, M, D/K and I in service mode.

Note: Modification to other TV systems either by means of Tuner & IF exchange or set up in service mode is only affecting the TV part and not the modulator. So there might be limitations in functionality changing TV systems.

Wiring diagram
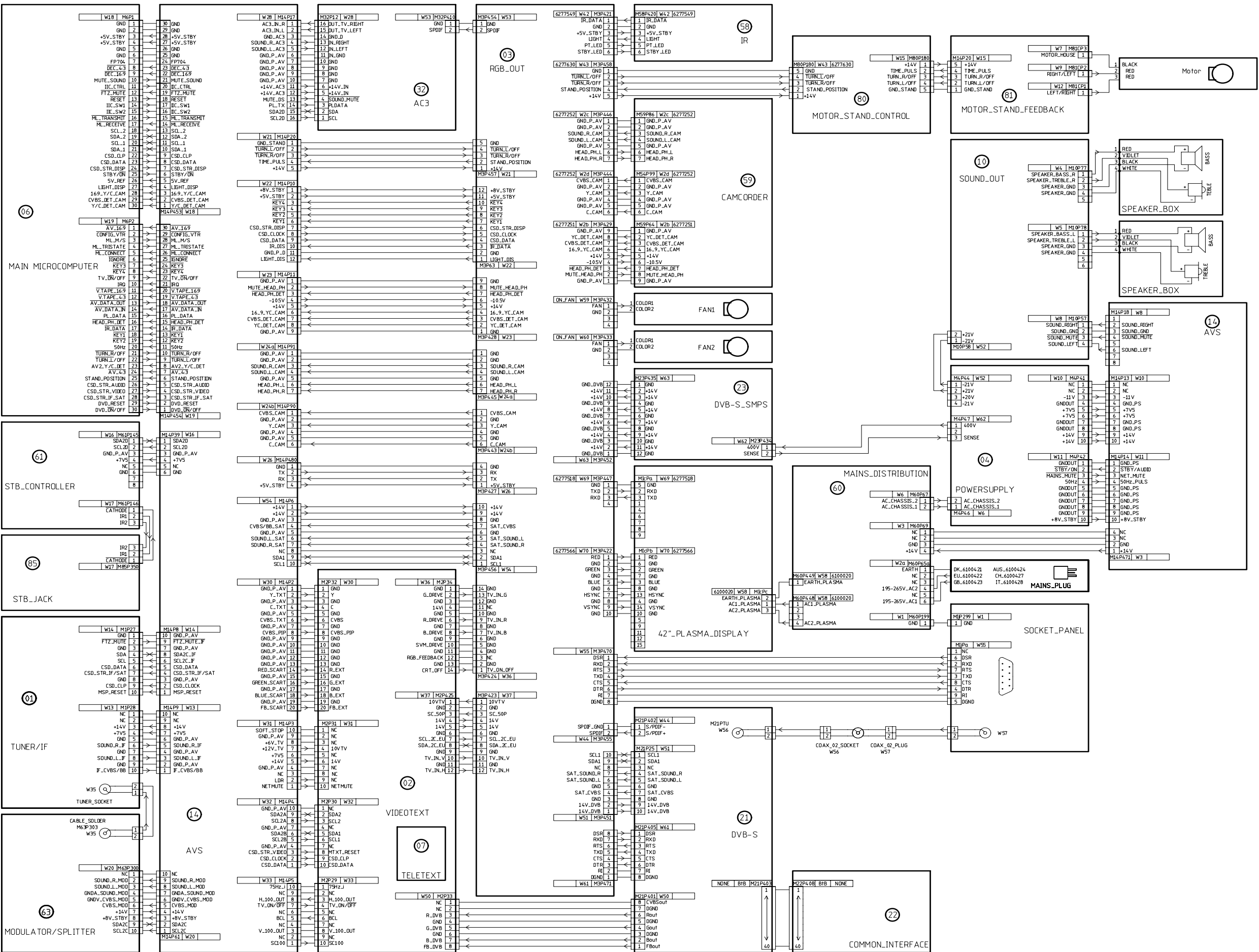
Available parts

Cabinet

Plasma modules, see SCRG f/PDP-42/D6

999Module
See page 12.3 and 12.4
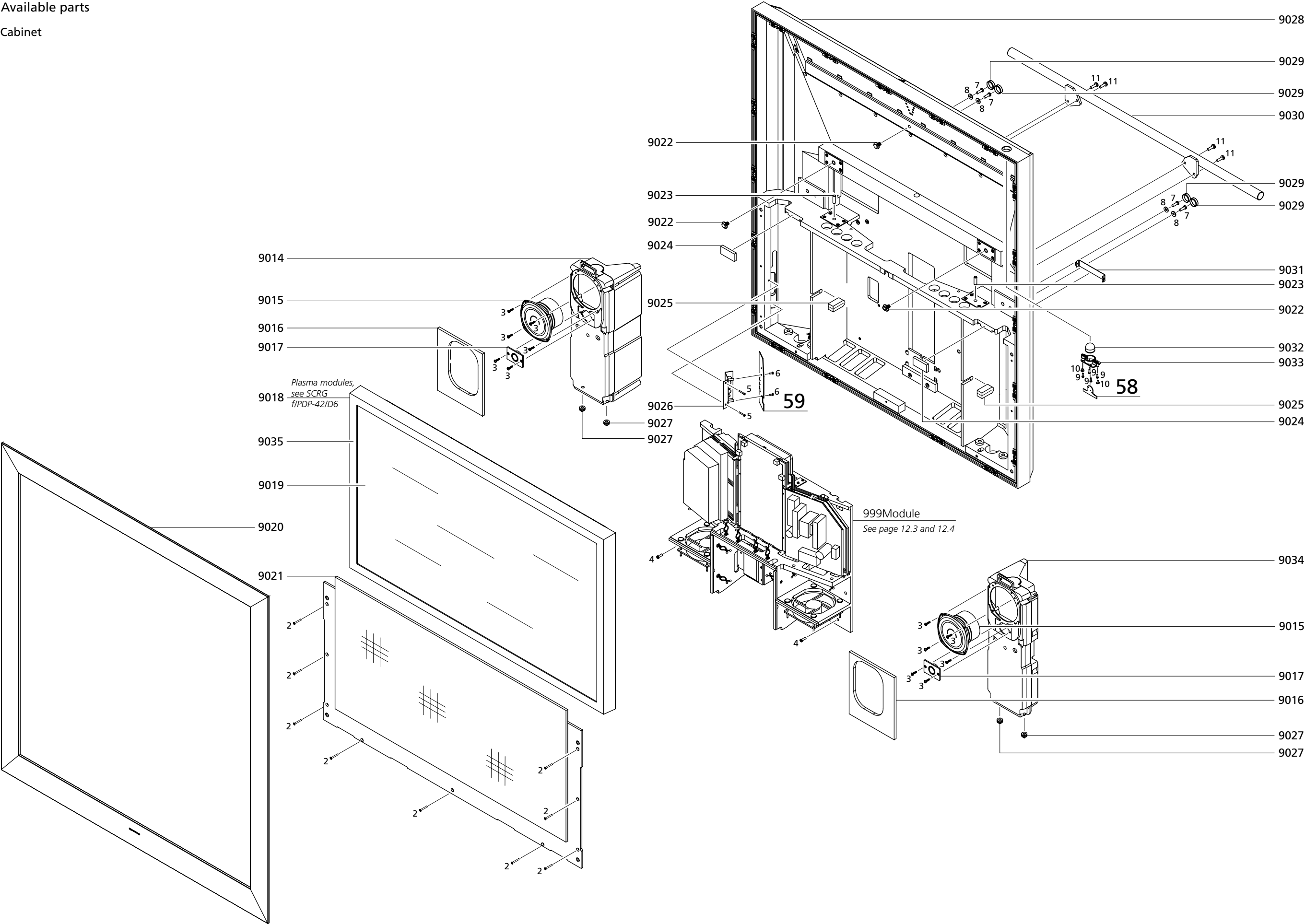
Cabinet

9014	3430734	Loudspeaker cabinet, left
9015	8480261	Bass speaker 4.5" - 8Ω
9016	3332091	Gasket
9017	8480243	Treble speaker 18mm - 8Ω
9018	8200122	Plasma screen, complete
9019	3451726	Front glass, only
9020	3320651	Front frame, black
	3320652	Front frame, silver
	3320733	Front frame, dark grey
	3320734	Front frame, light blue
9021	3320643	Front cloth, black
	3320258	Front cloth, silver
	3320644	Front cloth, dark grey
	3320209	Front cloth, light blue
9022	3375304	Adjusting screw
9023	2072124	Stop screw
9024	3947811	Foam tape
9025	3947704	Foam tape f/wires
9026	3153018	Holder f/PCB59
9027	3333033	Rubber bushing
9028	3320660	Back cover
9029	3375305	Blind plug
9030	3153017	Handle
9031	3375319	Cable holder
9032	3164855	IR cover
9033	3375310	Holder f/IR
9034	3430735	Loudspeaker cabinet, right
9035	3320625	Front frame for plasma screen

58Module	8000690	PCB58, IR-eye

59Module	8008855	PCB59, Camcorder Interface

Survey of screws etc.

2	2052042	Screw 35 x 25mm
3	2019018	Screw 4 x 16mm
4	2044079	Screw 5 x 16mm
5	2013217	Screw 3 x 20mm
6	2058017	Screw 3 x 8mm
7	2046039	Screw 6 x 18mm
8	2622551	Washer
9	2052011	Screw 30 x 10mm
10	2019029	Screw 3.5 x 8mm
11	2044078	Screw 6 x 20mm

999Module, Main chassis

9044

9044

9040

9041

9041

9041

9041

9045

12

9041

9041

9041

9041

10

5

5

9042

9043

60

9042

W2A

See page 12.5 and 12.6
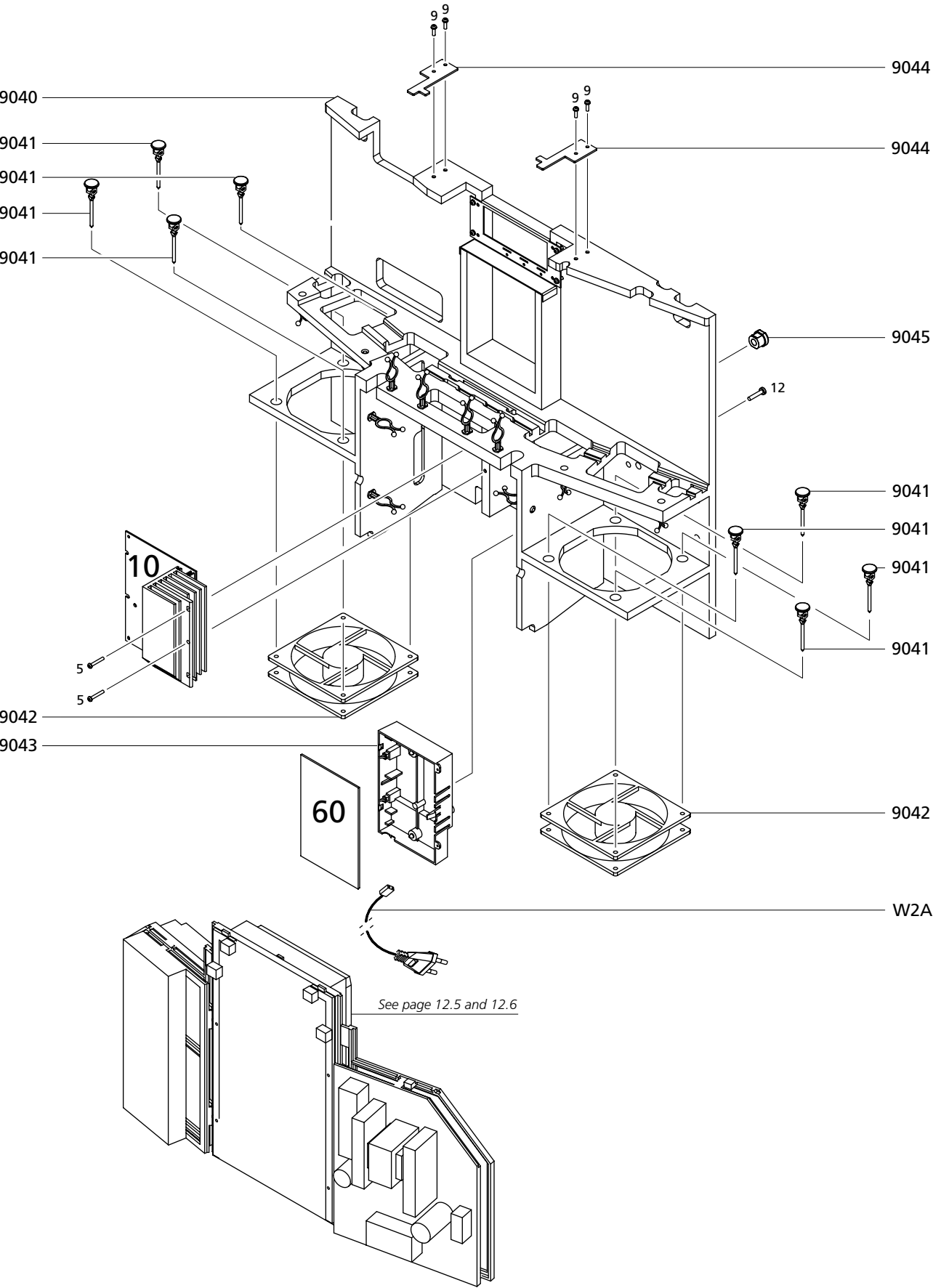
999Module, Main chassis

9040	3153019	Wooden frame
9041	3375299	Spacer
9042	8400234	Fan
9043	3152954	Cover f/PCB60
9044	3375335	Heat sink
9045	3034135	Lock f/wire

W2A	6100421	Mains lead, DK
	6100422	Mains lead, EU
	6100423	Mains lead, GB
	6100424	Mains lead, AUS
	6100427	Mains lead, CH
	6100428	Mains lead, IT

10Module	8000686	PCB10, Sound Output

60Module	8000691	PCB60, Mains Distribution

999Module		Main chassis, see page 12.7

Survey of screws

5	2013217	Screw 3 x 20mm
9	2052011	Screw 30 x 10mm
12	2015163	Screw 4 x 20mm

Electrical chassis

9050

3201

32

3202

1402

1403

85

6

9053

16

14

17

17

9054

15

15

61

15

15

3

15

15

9051

1

7

2

15

15

15

15

15

15

63

9055

4

15

15

15

15

15
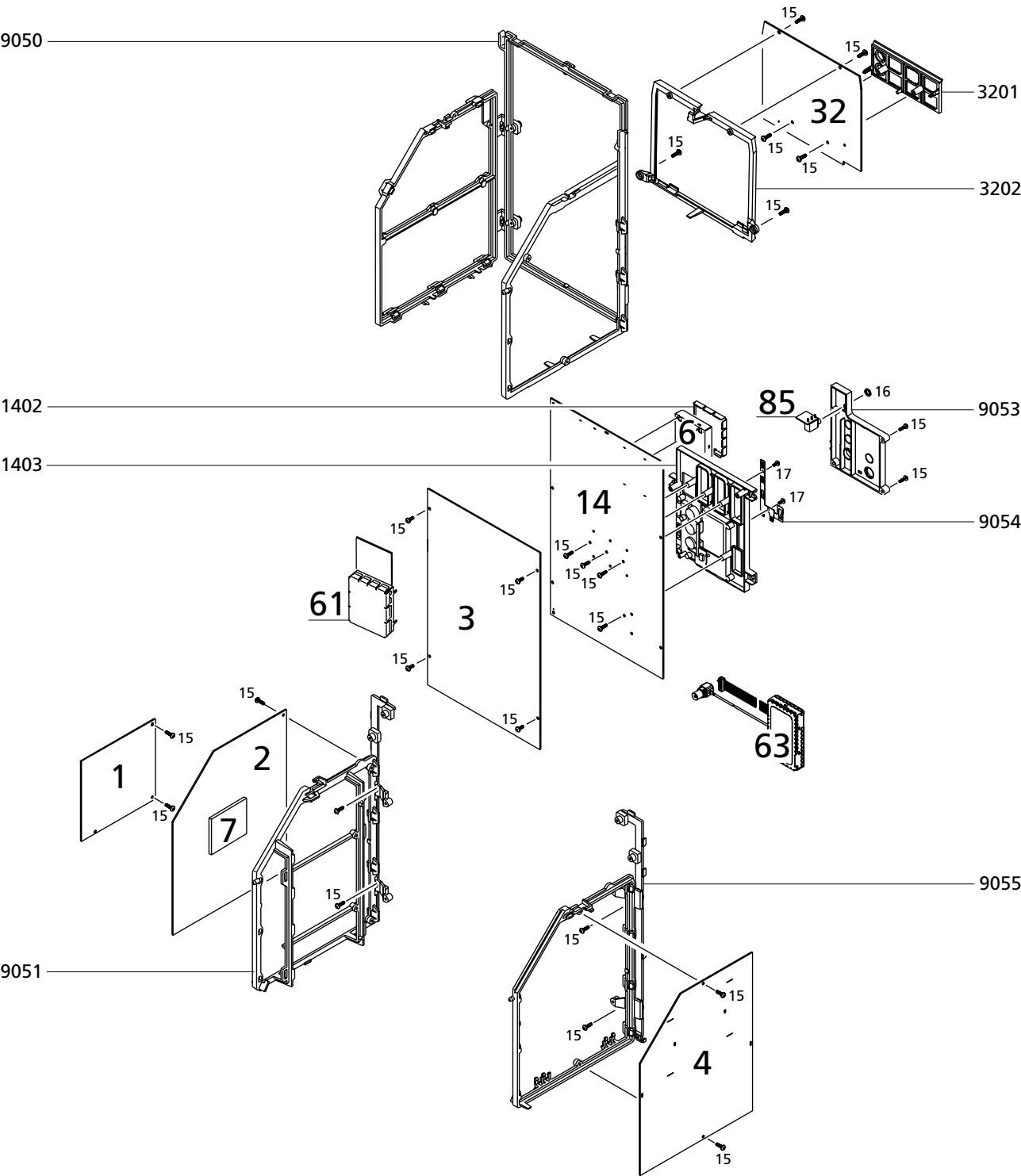
Electrical chassis

9050	3320666	Frame f/chassis	
9051	3152970	Holder f/PCB's	
9053	3151371	Holder	
9054	3031556	Ground spring	
9055	3152969	Holder f/PCB4	

01Module	8000293	PCB1, Tuner/IF & Nicam system B/G
	8000294	PCB1, Tuner/IF & Nicam system B/G/L/L'/I/D/K
	8000295	PCB1, Tuner/IF & Nicam system B/G/M/I/D/K/L

02Module	8000147	PCB2, Video/Chroma incl. PCB7

03Module	8000148	PCB3, RGB Out

04Module	8000298	PCB4, Main Power Supply

06Module		PCB6, Main Microcomputer – see Service mode
6IC3*Δ	8344288	Software EPROM
6IC6Δ	8343984	EEPROM

07Module	8000302	PCB7, Teletext

14Module	8000256	PCB14, AV Switch incl. PCB6 – see Service mode
1402	3162339	Lid f/PCB6
1403	3151372	Holder

32Module	8000910	PCB32, AC3
3201	3151572	Holder
3202	3151570	Holder f/PCB32

61Module	8005946	PCB61, STB Controller (incl. PCB85)

63Module	8000874	PCB63, Modulator system B/G
	8000873	PCB63, Modulator system I

85Module	8008903	PCB85, Jack f/STB Controller

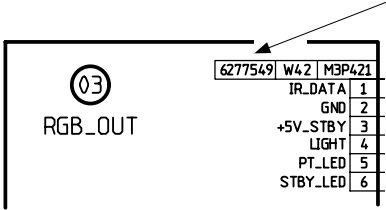**Survey of screws etc.**

15	2013137	Screw 3 x 10mm
16	2380145	Nut f/mini jack socket
17	2013147	Screw 3 x 5mm

*   specially selcted or adapted sample
Δ   indicates that electricity may destroy
     the component

Wire bundles

See wiring diagram page 11.1.
The part no. is printed on the diagram above the wire bundle, as shown.

Parts not shown

|	
8053466	Special remote control
3375289	Service stand - order 2 pcs.
3375706	Micro fibre cloth
3375290	Product cover
3390621	3 holders for scart plugs, screws and extension straps for repacking

Back-up suitcase and
Main chassis module 999

|	
3395089	Back-up suitcase with plasma modules
8053006	Main chassis, system B/G with B/G modulator for: A-B-CH-D-DK-E-GR-N-NL-P-S-SF-I-NZ-AUS
8053007	Main chassis, system B/GL/L'/I/D/K with I modulator for: UK
8053009	Main chassis, system B/G/M/I/D/K/L with B/G modulator for: EEU-HUN-Thailand
8053010	Main chassis, system B/G/M/I/D/K/L with I modulator for: HK
8053008	Main chassis, system B/GL/L'/I/D/K with B/G modulator for: F-CH-B-Channel Islands

Available documentation

|	
3538003	Service Center repair guide f/Plasma Display Panel – 42 type D6 English, German, French, Italian, Spanish, Danish, Dutch
	Guides and Reference book, please see Retail Ordering System

Packing

9301	
9302	
9303	
9304		9311
9305	
9306		9306
9307		9307
9308	
9302	
9309	
9310	
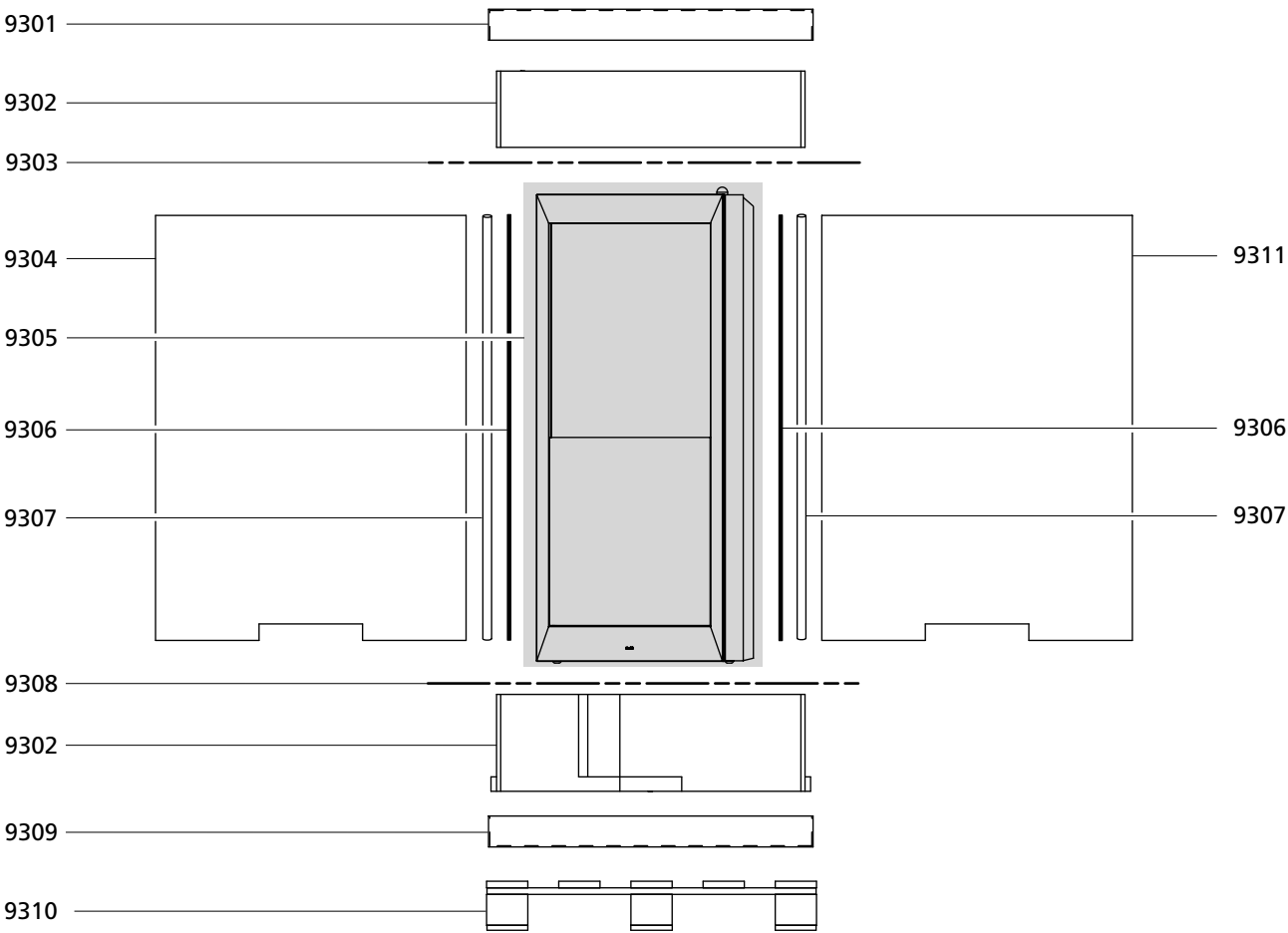
9301	3392702	Outer carton, top
9302	3396130	Foam packing, set of top and bottom
9303	3917226	Foam foil - order 2pcs.
9304	3392701	Outer carton, side
9305	3392727	Masonite, side - order 2pcs.
9306	3392726	Masonite, front/back - order 2pcs.
9307	3392074	Distance pipe - order 4pcs.
9308	3917226	Foam foil - order 2pcs.
9309	3392702	Outer carton, bottom
9310	3392707	Wooden pallet
	3392728	Wooden pallet (AUS-HK)
9311	3392701	Outer carton, side
	3375424	Tip and tell
	3946176	Bag w/15m strap and 3 holders - order 2pcs.

Floor stand,
type 4171
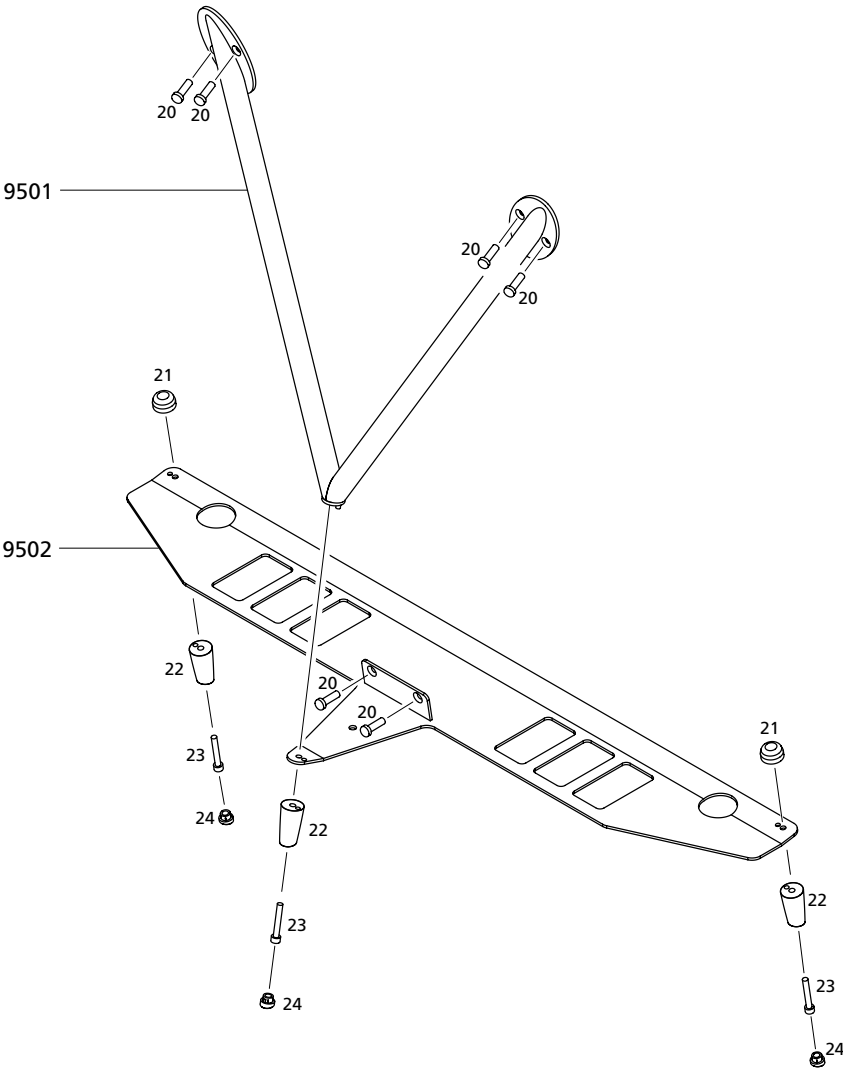
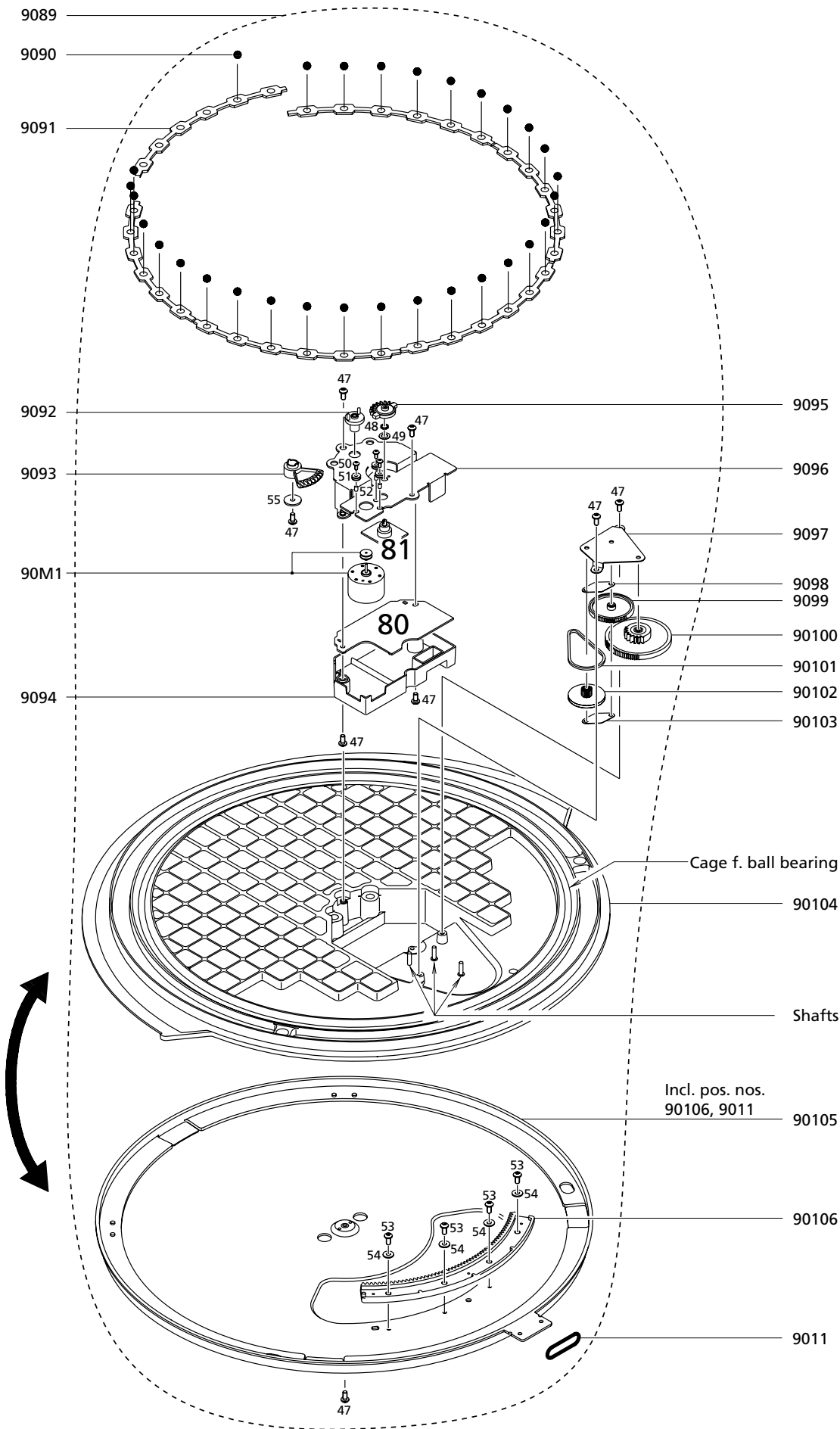|		
9501	3151728	Bracket
9502	3151729	Bottom plate
20	2058053	Screw
21	3375326	Threaded bushing
22	3151727	Foot
23	2046037	Screw 6 x 40mm
24	3375318	Rubber bushing
	3390618	Bag w/screws etc.
	3504638	Guide
	3396199	Foam packing
	3392774	Outer carton

Motorised Stand,
type 4173
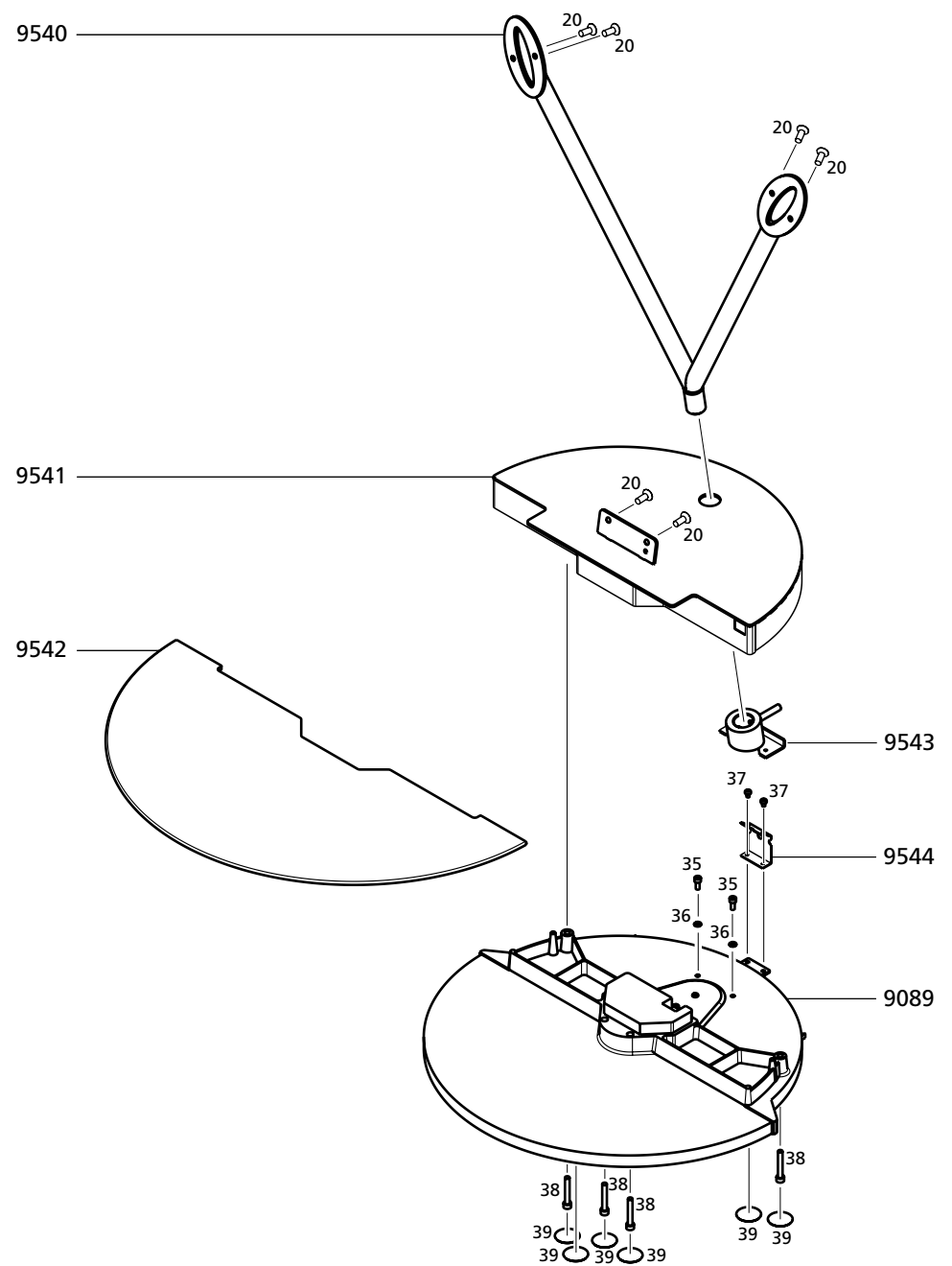
9089	8053488	Motorised base plate, complete (see also page 12.11 and 12.12)
9540	3459373	Bracket
9541	3459374	Shield
	6277630	Wire bundle
9542	3459372	Base cover plate
9543	3375401	Holder f/bracket
9544	3375402	Holder f/wire bundle
20	2058053	Screw
35	2058014	Screw 5 x 12mm
36	2622558	Washer
37	2056010	Screw 4 x 6mm
38	2046037	Screw 6 x 40mm
39	3947565	Wafer
	3390644	Bag w/screws etc.
	3504674	Guide
	3396188	Foam packing, set of top and bottom
	3392759	Outer carton

Motorised base plate, complete

9089
9090
9091
9092
9095
9093
9096
55
47
47
9097
47
9098
9099
90M1
81
90100
90101
80
90102
9094
47
90103
47
Cage f. ball bearing
90104
Shafts
Incl. pos. nos.
90106, 9011
90105
53
53
54
90106
53
54
53
54
9011
54
47

Motorised base plate			
	9011	2732128	O-Ring
	9089	8053488	Motorised base plate, complete
	9090	2917030	Ball
	9091	3152942	Holder f/balls
	9092	2993038	Centre tap
	9093	2700128	Gear wheel
	9094	3162464	Cover w/plate
	9095	2700129	Gear wheel
	9096	3152940	Holder f/motor
	9097	3152941	Holder f/gear wheel
	9098	3472827	Damper f/gear wheel
	9099	2700131	Gear wheel
	90100	2700132	Gear wheel
	90101	2732092	Belt
	90102	2700130	Gear wheel f/belt
	90103	3472827	Damper f/gear wheel
	90104	2752097	Top plate
	90105	3454810	Bottom plate
	90106	2700133	Gear wheel rim
	90M1	8400210	Motor
	80Modul	8008337	PCB80, Motor Stand Control
	81Modul	8008338	PCB81, Motor Stand

Survey of screws etc.			
	47	2042074	Screw 4 x 8mm
	48	2380165	Nut
	49	2622500	Washer
	50	2036061	Screw 2.6 x 6.5mm
	51	2938306	Rubber bushing
	52	2930074	Bushing
	53	2042073	Screw 4 x 6mm
	54	2622467	Washer
	55	2622492	Washer

| LUBRICATION	
Cage for ball bearing	3984057 Full synthetic grease (50g)
Tooths on gear wheel rim 90106 Full periphery of gear wheels 9099 and 90100 Rim of gear wheel 9093	3984049 Barrierta grease L55/3 (25g)
Shafts on 90104	3984051 Barrierta oil IS Fluid (50ml)

Cabinet,
type 4177
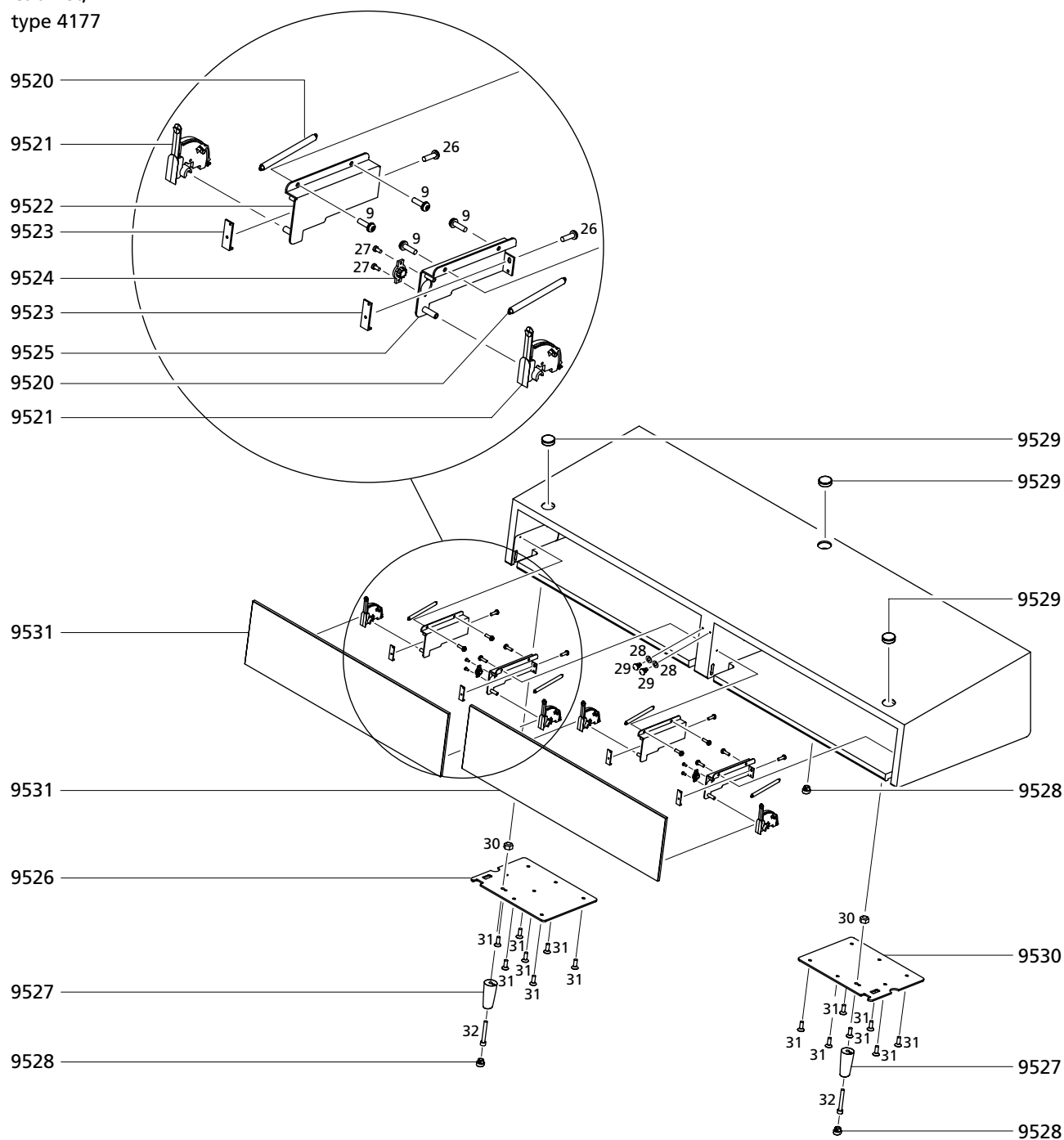
9520	3375276	Spring	9528	3375318	Plastic foot
9521	3375343	Arm f/lid	9529	3375305	Blind plug
9522	3124198	Fitting, left	9530	3124197	Plate, right
9523	3375384	Bracket	9531	3451760	Lid, black
9524	3375277	Damper		3451756	Lid, grey
9525	3124199	Fitting, right		3451114	Lid, dark grey
9526	3124196	Plate, left		3451111	Lid, light blue
9527	3124200	Foot			

9	2052011	Screw 30 x 10mm	29	3010007	Rubber plug
26	2038094	Screw 3 x 10mm	30	3375273	Nut
27	2058050	Screw 2 x 4mm	31	3375278	Screw 40 x 12mm
28	3375275	Spacer	32	3375274	Screw 6 x 45mm

	3504657	Guide
	3396157	Foam packing, set of top and bottom
	3392722	Outer carton

Wall bracket,
type 4178

9510

25
25

9511

25

25

9512

9513

25

9514

25
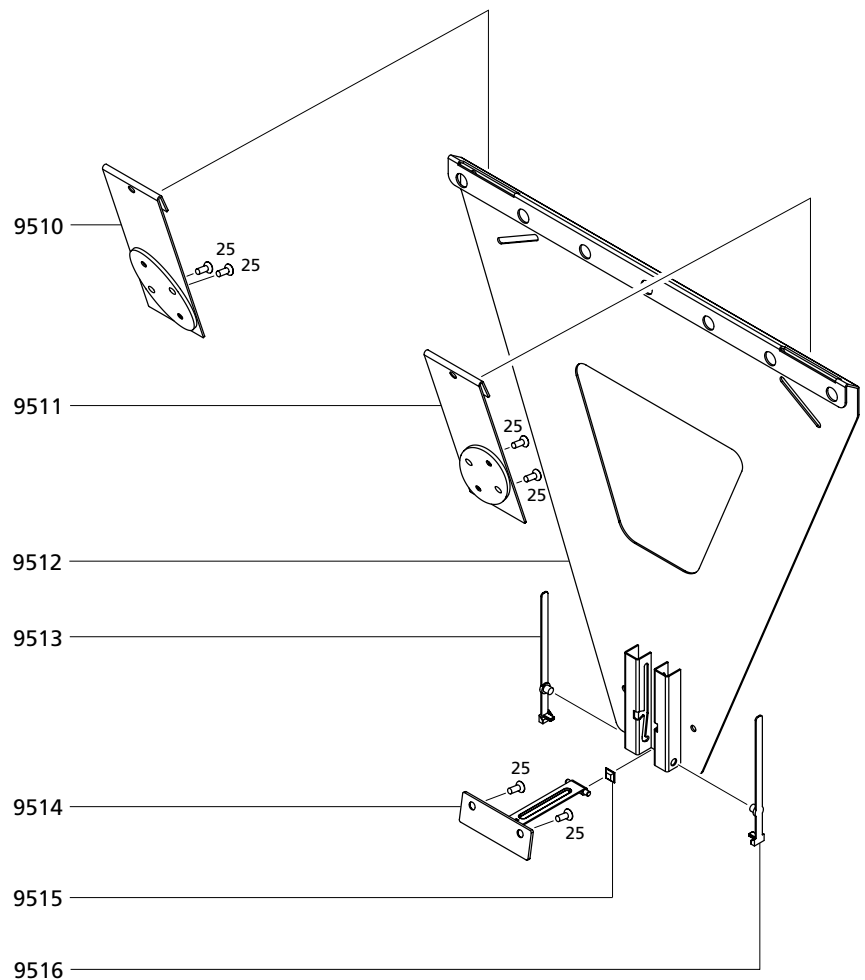
9515

9516

9510	3124193	Hinge, left
9511	3124194	Hinge, right
9512	3124195	Wall plate
9513	3152641	Wire holder
9514	3124192	Assembly fitting
9515	3375373	Self-adhesive tape
9516	3152641	Wire holder
25	3375374	Screw 6 x 16mm
	3504658	Guide
	3396195	Foam packing
	3392771	Outer carton